# OpenEye®

## Network Video Recorder

User Manual

## N-Series

### N4

OE-N4U16
OE-N4U32
OE-N4U64

### N3

OE-N3U08
OE-N3U16
OE-N3U32

### N2

OE-N2U08
OE-N2U16
OE-N2U32
OE-N2U64

### NM

OE-NM04
OE-NM08
OE-NM16

www.openeye.net

OpenEye® N-Series NVR

Operations Manual

Manual Edition 32521AD – FEBRUARY 2015

©2015, OPENEYE

All Rights Reserved

No part of this document may be reproduced by any means, electronic or mechanical, for any purpose, except as expressed in the Software License Agreement. OPENEYE shall not be liable for technical or editorial errors or omissions contained herein. The information in this document is subject to change without notice.

The information in this publication is provided “as is” without warranty of any kind. The entire risk arising out of the use of this information remains with recipient. In no event shall OPENEYE be liable for any direct, consequential, incidental, special, punitive, or other damages whatsoever (including without limitation, damages for loss of business profits, business interruption or loss of business information), even if OPENEYE has been advised of the possibility of such damages or whether in an action, contract or tort, including negligence.

This software and documentation are copyrighted. All other rights, including ownership of the software, are reserved to OPENEYE. OPENEYE, OpenEye, HDDR, and High Definition Digital Recorder are registered trademarks of OPENEYE in the United States and elsewhere; Windows, and Windows XP Embedded are registered trademarks of Microsoft Corporation. All other brand and product names are trademarks or registered trademarks of the respective owners.

The following words and symbols mark special messages throughout this guide:

**Note** Text set off in this manner indicates information that is necessary for proper operation of the product.

**Tip** Text set off in this manner indicates information that may be helpful.

**Caution** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

OPENEYE

Liberty Lake, WA ● U.S.A.

## IMPORTANT SAFEGUARDS

1. **Read Owner's Manual** – After unpacking this product, read the owner's manual carefully, and follow all the operating and other instruction
2. **Power Sources** – This product should be operated only from the type of power source indicated on the label. If not sure of the type of power supply to your home or business, consult product dealer or local power company
3. **Ventilation** – Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
4. **Heat** – The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products that produce heat.
5. **Water and Moisture** – Do not use this product near water.
6. **Cleaning** – Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
7. Power Cord Protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
8. **Overloading** – Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electrical shock.
9. **Lightning** – For added protection for this product during storm, or when it is left unattended and unused for long periods, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power line surges.
10. **Object and Liquid Entry Points** – Never insert foreign objects into the recorder, other than the media types approved by OpenEye, as they may touch dangerous voltage points or short-out parts that could result in a fire or electrical shock. Never spill liquid of any kind on the product.
11. **Accessories** – Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious personal injury and serious damage to the product.
12. **Disc Tray –** Keep fingers well clear of the disc tray as it is closing. Neglecting to do so may cause serious personal injury.
13. **Burden –** Do not place a heavy object on or step on the product. The object may fall, causing serious personal injury and serious damage to the product.
14. **Disc** – Do not use a cracked, deformed, or repaired disc. These discs are easily broken and may cause serious personal injury and product malfunction.
15. **Damage Requiring Service –** Unplug the unit from the outlet and refer servicing to qualified service personnel under the following conditions:
    - When the power-supply cord or plug is damaged.
    - If liquid has been spilled, or objects have fallen into the unit.
    - If the unit has been exposed to rain or water.
    - If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
    - If the unit has been dropped or the enclosure has been damaged.
    - When the unit exhibits a distinct change in performance – this indicates a need for service.
16. **Servicing –** Do not attempt to service this product as opening or removing covers may expose the user to dangerous voltage or other hazards. Refer all servicing to qualified personnel.
17. **Replacement Parts –** When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
18. **Safety Check –** Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

## BATTERY EXPLOSION CAUTION STATEMENT

**CAUTION:** Risk of Explosion if Battery is replaced by an Incorrect Type.
Dispose of Used Batteries According to the Instructions.

## NOTES ON HANDLING

Please retain the original shipping carton and/or packing materials supplied with this product. To ensure the integrity of this product when shipping or moving, repackage the unit as it was originally received from the manufacturer.

Do not use volatile liquids, such as aerosol spray, near this product. Do not leave rubber or plastic objects in contact with this product for extended periods of time. Rubber or plastic objects left in contact with this product for extended periods of time will leave marks on the finish.

The top and rear panels of the unit may become warm after long periods of use. This is not a malfunction.

## NOTES ON LOCATING

Place this unit on a level surface. Do not use it on a shaky or unstable surface such as a wobbling table or inclined stand. If this unit is placed next to a TV, radio, or VCR, the playback picture may become poor and the sound may be distorted. If this happens, place the recorder away from the TV, radio, or VCR.

## NOTES ON CLEANING

Use a soft dry cloth for cleaning.

For stubborn dirt, soak the cloth in a weak detergent solution, wring well and wipe. Use a dry cloth to wipe it dry. Do not use any type of solvent, such as thinner and benzene, as they may damage the surface of the recorder.

If using a chemical saturated cloth to clean the unit, follow that product's instructions.

## NOTES ON MAINTENANCE

This recorder is designed to last for long periods of time. To keep the recorder always operational we recommend regular inspection maintenance (cleaning parts or replacement). For details, contact the nearest dealer.

## NOTES ON MOISTURE CONDENSATION

Moisture condensation damages the recorder. Read the following information carefully. Moisture condensation occurs during the following cases:

- When this product is brought directly from a cool location to a warm location.
- When this product is moved to a hot and humid location from a cool location.
- When this product is moved to a cool and humid location from a warm location.
- When this product is used in a room where the temperature fluctuates.
- When this product is used near an air-conditioning unit vent
- When this product is used in a humid location.

Do not use the recorder when moisture condensation may occur.

If the recorder is used in such a situation, it may damage discs and internal parts. Remove any CD discs, connect the power cord of the recorder to the wall outlet, turn on the recorder, and leave it for two to three hours. After two to three hours, the recorder will warm up and evaporate any moisture. Keep the recorder connected to the wall and moisture will seldom occur.

## WARNING

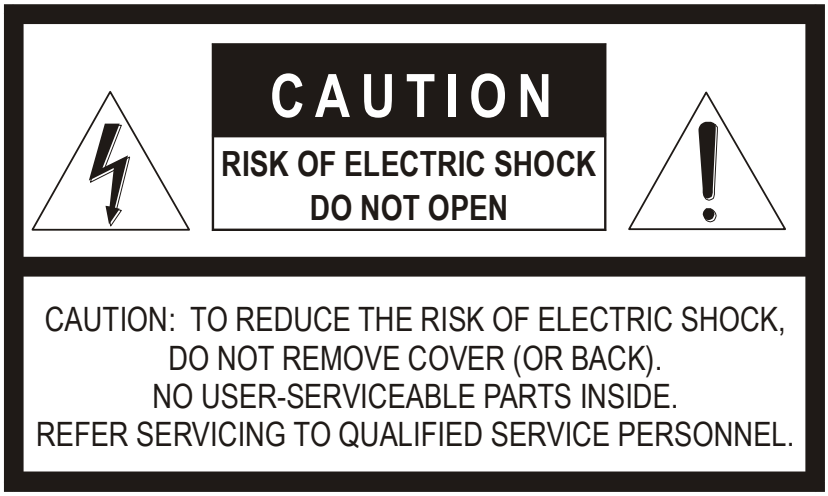
TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE.

DO NOT OPEN THE CABINET.

REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

## CAUTION


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

## RACK MOUNT INSTRUCTIONS

**Elevated Operating Ambient** – If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

**Reduced Air Flow** – Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

**Mechanical Loading** – Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

**Circuit Overloading** – Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

**Grounding** – Grounding of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

## FCC STATEMENT

**INFORMATION TO THE USER:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

USERS OF THE PRODUCT ARE RESPONSIBLE FOR CHECKING AND COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND STATUTES CONCERNING THE MONITORING AND RECORDING OF VIDEO AND AUDIO SIGNALS. OPENEYE SHALL NOT BE HELD RESPONSIBLE FOR THE USE OF THIS PRODUCT IN VIOLATION OF CURRENT LAWS AND STATUTES.

## UL NOTICE

Underwriters Laboratories Inc. has not tested the performance or reliability of the security or signaling aspects of this product. UL has only tested for fire, shock and casualty hazards as outlined in UL's Standard for Safety UL 60950-1. UL Certification does not cover the performance or reliability of the security or signaling aspects if this product. UL MAKES NO REPRESENTATIONS, WARRANTIES OR CERTIFICATIONS WHATSOEVER REGARDING THE PERFORMANCE OR RELIABILITY OF ANY SECURITY OR SIGNALING RELATED FUNCTIONS OF THIS PRODUCT.

# TABLE OF CONTENTS


**TABLE OF CONTENTS** ..... **8**

**PREFACE** ..... **14**

About this Guide ..... 14

Technician Notes ..... 14

**INTRODUCTION** ..... **15**

Product Description ..... 15

Features ..... 16

**CONTROLS AND CONNECTIONS** ..... **17**

Front Panel Controls and LEDs ..... 17

N2 Front Panel ..... 17

N3 Front Panel ..... 17

NM Front Panel ..... 18

N4 Front Panel ..... 18

Rear Panel Connectors ..... 19

N2 Rear Panel ..... 19

N3 Rear Panel ..... 19

NM Rear Panel ..... 20

N4 Rear Panel ..... 20

**GETTING STARTED** ..... **21**

Identifying Included Components ..... 21

Keyboard Setup ..... 22

Mouse Setup ..... 22

Monitor Setup ..... 23

Power Setup ..... 23

Hard Drive Array (N2 and N4 Only) ..... 24

Inserting a Hard Drive ..... 24

N2 Drive Order ..... 24

N4 Drive Order ..... 24

N2 and N4 Rackmount Kit Installation ..... 25

Preparing for Setup ..... 25

Separating the Section of the Rack Rails ..... 25

Installing the Inner Rail Extensions ..... 26

Installing the Outer Rack Rails ..... 26

Installing the Recorder into a Rack ..... 26

N4 Front Bezel Installation ..... 27

Turning On Your Recorder ..... 27

Turning Off Your Recorder ..... 27

**NVR BASICS** ..... **28**

Setting the Time and Date ..... 28
Accessing the DVR Utility ..... 28
Exporting Settings ..... 28
Importing Recorder Settings ..... 29
Display Screen ..... 30
CPU Meter ..... 30
Live Camera Options ..... 31
Camera View ..... 32
Recording Status Indicator ..... 32
Special Recording ..... 32
Edit Live View Channels ..... 33
Screen Division Buttons ..... 33
Custom Live View Divisions ..... 34

**SETUP OPTIONS ..... 35**

Setup Overview ..... 35
Setup Menu Overview ..... 35
Network Camera Setup ..... 36
Connecting a Network Device ..... 36
Connecting Manually ..... 36
Connecting with Find Cameras ..... 37
Naming Camera Channels ..... 37
Import / Export Camera Configuration Settings ..... 37
Assigning Dual Streams ..... 38
Assigning Audio Channels to a Network Device ..... 38
Camera Status and Information ..... 39
NVR Registration ..... 40
Locating the System ID ..... 40
Obtaining the License Key ..... 40
Unlocking the Upgrade ..... 41
Unlocking Additional Network Devices ..... 41
PTZ Camera Setup ..... 42
Enabling an IP PTZ Camera ..... 42
Using the Graphical PTZ Controller ..... 43
Motion DETECTION Setup ..... 44
Create a Motion Area ..... 44
Enable Sabotage Detection ..... 45
Etc. ..... 45
General Setup ..... 46
Audio ..... 46
Configure Audio Channels ..... 46
Voice Warning ..... 47
Display ..... 47
Display Options ..... 48
General ..... 48

Sequencing ..... 49
Auto Sequence ..... 49
Create Custom Auto Sequence ..... 49
POS ..... 50
Basic POS Setup ..... 50
POS Alerts ..... 51
Alarms / Sensor ..... 52
Alarms ..... 52
Sensors ..... 52
Configure Sensors ..... 52
Activate PTZ Preset ..... 53
Hybrid Sensor Setup ..... 54
Relays ..... 54
Recording Schedule ..... 55
Default Schedules ..... 55
Day of the Week ..... 56
Creating a Recording Schedule (Example) ..... 56
Setting Daytime Motion Detection (Example) ..... 56
Setting Nighttime Continuous Recording ..... 57
Setting Weekend Motion Recording ..... 57
Creating a Sensor Schedule (Example) ..... 58
Special Day Schedule ..... 59
Creating/Editing a 'Special Day' Schedule ..... 59
Deleting a 'Special Day' Schedule ..... 59
Alarm Options ..... 60
Setting a Restart Schedule ..... 61
Create System Restart Schedule ..... 61
Network Setup ..... 62
User Management ..... 63
Add a New User ..... 63
User Rank ..... 64
Changing the Administrator Password ..... 64
Default Administrator Password ..... 64
Storage Management ..... 65
Status Check / Email ..... 65
General ..... 65
Users ..... 65
Storage Check ..... 66
Recording Data Check ..... 66
SMART Alert ..... 67
Alarm Event ..... 67
ReportStar ..... 68
SMART Information ..... 68
Data Management ..... 69
Delete Recorded Data ..... 69

File Management ..... 69
Storage Management ..... 69
System Information ..... 70
Basic Information ..... 70
Program Management ..... 71
Log Files ..... 72
Viewing Log Files ..... 72
Exporting Log Files ..... 72
Set Up Log Management Options ..... 73
Upgrade Information ..... 74
Remote Software Upgrade ..... 74
Local Software Upgrade ..... 74
Manual Software Upgrade ..... 75

**SEARCH ..... 76**
Search Overview ..... 76
Play Controls ..... 76
Adjust the Brightness of an Image ..... 77
Zooming in on an Image ..... 77
Zooming in on a Portion of an Image ..... 77
Open Video from a Saved Location ..... 77
Sync ..... 77
Clean Image ..... 77
Instant Recording ..... 78
Activate Instant Recording ..... 78
Searching 'Instant Recorded' Video ..... 78
Performing a Basic Search ..... 78
Printing an Image ..... 78
Daylight SavIng Time ..... 79
Export Image or Video Files ..... 80
Bookmarks ..... 81
Modify Bookmarks ..... 81
Clip Backup ..... 82
Single Clip Backup Using Bookmark Data ..... 82
Index Search ..... 83
Performing an Index Search ..... 83
Index Search Results Display ..... 83
Preview Search ..... 84
Performing a Preview Search ..... 85
Status Search ..... 85
Performing a Status Search ..... 85
Object Search ..... 86
Performing an Object Search ..... 86
Motion Search ..... 87
Performing a Motion Search ..... 87

Audio Playback....87
Search in Live....88

**ADVANCED PTZ SETUP....89**
General....89
PTZ Address Settings....89
PTZ Presets/Tours....90
Creating a Preset....90
Viewing a Preset....90
Accessing PTZ Menus....90
Controlling a PTZ Camera....90
Using the Graphical PTZ Controller....91
Using the On-Screen Compass....91
Understanding Tours....92
PTZ Tour Schedule....92

**BACKING UP VIDEO DATA....93**
Backup Overview....93
Nero® Express....93
General Backup Overview....94
Performing a General Backup....94
Clip Backup Overview....95
Performing a Clip Backup....95
Scheduled Backup Overview....96
Activating Scheduled Backup....96
Specifying Scheduled Backup Drives....96
Performing a Scheduled Backup....97

**LAN / ISDN / PSTN CONNECTIONS....98**
LAN Overview....98
Connecting to a LAN Using TCP/IP....98
Configuring TCP/IP Settings....98

**ACTIVE DIRECTORY INTEGRATION....99**
Features....99
Installing Active Directory....99

**WEB VIEWER....101**
Web Viewer Overview....101
Configuring the Recorder for Remote Connection....102
Connecting to a Recorder Using Web Viewer....102
Closing the Web Viewer....102

**INCLUDED SOFTWARE SETUP....103**
MDVR Overview....103
Emergency Agent Overview....103
Configuring the Recorder....103
Configuring the Client PC....104

Setup Window ..... 104
Emergency Agent Window ..... 105
Filter Event List ..... 105
Add Items to Alarm Confirm List ..... 105
Search Alarm Window ..... 106
View Recorded Video ..... 106
Export Video ..... 106
Remote Software Overview ..... 107
Remote Software Setup ..... 108
Installing Remote Software ..... 108
Create a New Remote Connection ..... 108
Configuring the Recorder ..... 109
Digital Verifier Overview ..... 110
Installing the Digital Verifier ..... 110
Using the Digital Verifier ..... 110
Backup Viewer Overview ..... 111
Installing Backup Viewer ..... 111
Loading Video from DVD or Hard Drive ..... 111
RADIUS Overview ..... 112
Connecting to a Recorder ..... 112

# PREFACE

## ABOUT THIS GUIDE

This manual is a setup and maintenance guide that can be used for reference when setting up the N-Series recorder and for troubleshooting when a problem occurs. Only authorized personnel should attempt to repair this unit.

OpenEye reserves the right to make changes to the products represented by this manual without notice.

The following text and symbols mark special messages throughout this guide:

**Note** Text set off in this manner indicates topics of interests that can help the user understand the product better.

**Tip** Text set off in this manner indicates topics and points of interests that can be helpful when using or settings up the recorder.

## TECHNICIAN NOTES

**Warning** Only authorized technicians trained by OpenEye should attempt to repair this recorder. All troubleshooting and repair procedures that may be shown are for reference and minor repair only. Because of the complexity of the individual components and subassemblies, no one should attempt to make repairs at the component level or to make modifications to any printed wiring board. Improper repairs can create a safety hazard. And any indications of component replacement or printed wiring board modifications may void any warranty

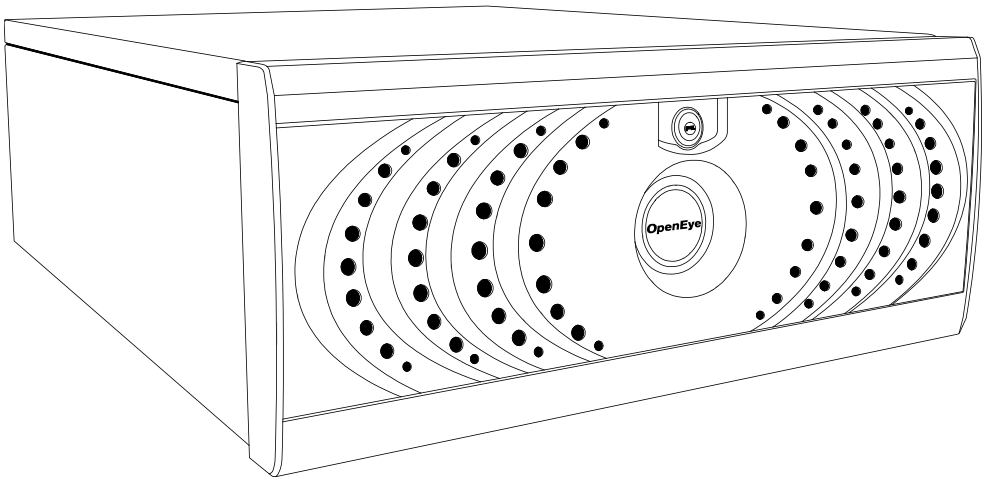
**Warning** To reduce the risk of electrical shock or damage to the equipment:

- Do not disable the power grounding plug. The grounding plug is an important safety feature.
- Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
- Disconnect the power from the computer by unplugging the power cord either from the electrical outlet or the computer.

**Caution** To properly ventilate your system, you must provide at least 3 inches (7.6 cm) of clearance at the front and back of the recorder.

# INTRODUCTION

## PRODUCT DESCRIPTION




OpenEye N-Series recorders are servers that perform as High Definition Digital Recorders. By utilizing many features of a computer, including processing power, storage capacity, graphics compression, and security features, the recorder is more powerful than the analog recorders of the past.

The OpenEye server software is pre-configured for fast and seamless integration within your existing IT infrastructure. Designed around a Microsoft® Windows 7 Embedded operating system, the server software offers unparalleled stability, security, and ease of use. Accordingly, your security investment has never been easier to maintain. Multiple users can simultaneously connect through any network connection for instantaneous live viewing, search, and off-site video storage. Users can also connect remotely via the Internet. This powerful software enables you to establish recording schedules, create motion detection zones, use PTZ controls, and configure alarm inputs and outputs for each of the system's cameras. New advancements in OpenEye Server Software make it even easier to search, index, and export video files.

The OpenEye N-Series recorder is high performance security product ready to meet today’s security demands.

# FEATURES

OpenEye N-Series recorders include the following features:

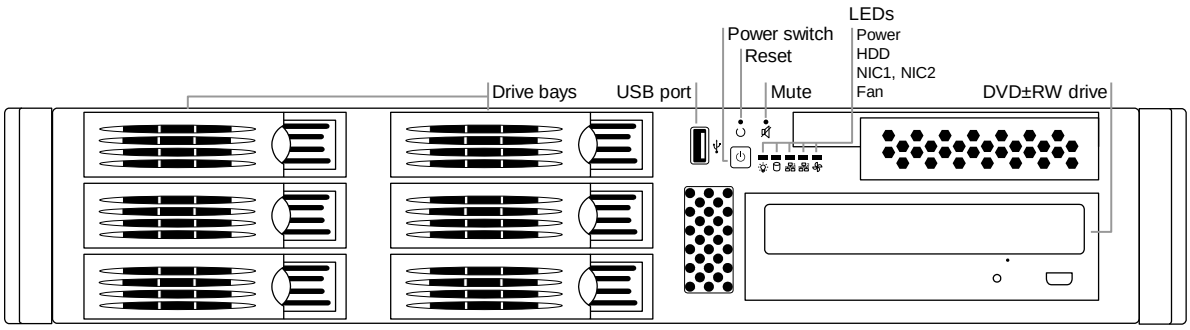
- Optimized and designed for Microsoft® Windows 7 Embedded
- Supports up to 64 network cameras
- Remote system operation & configuration
- Supports multiple simultaneous remote connections
- PAN / TILT / ZOOM controls
- Simultaneous video search, playback and backup
- Video indexes for easy searching
- Multiple levels of security access
- Optional POS and ATM support
- High performance, durable, rackmount case
- Output the video to a NTSC/PAL display
- Up to 24TB internal storage
- Digital signature support
- Continuous, motion detection, alarm, pre-alarm, and scheduled recording modes
- Server-side or camera-side motion detection
- 360° camera support
- Dual gigabit network connections
- Camera-dependant recording resolutions

# CONTROLS AND CONNECTIONS

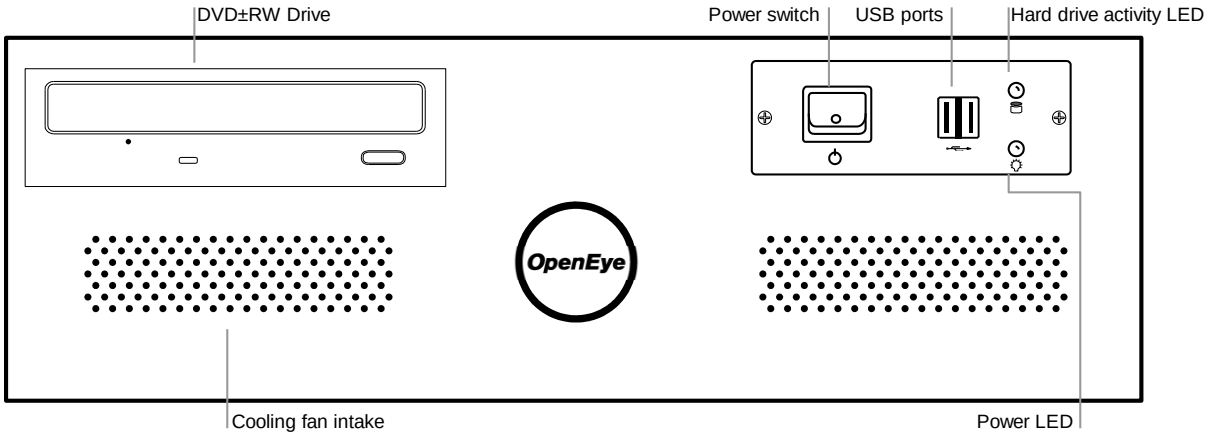
## FRONT PANEL CONTROLS AND LEDS

The front panel of the recorder contains the devices that will be commonly used for data removal, retrieval, and backup replacement. The most common components and buttons are shown below:

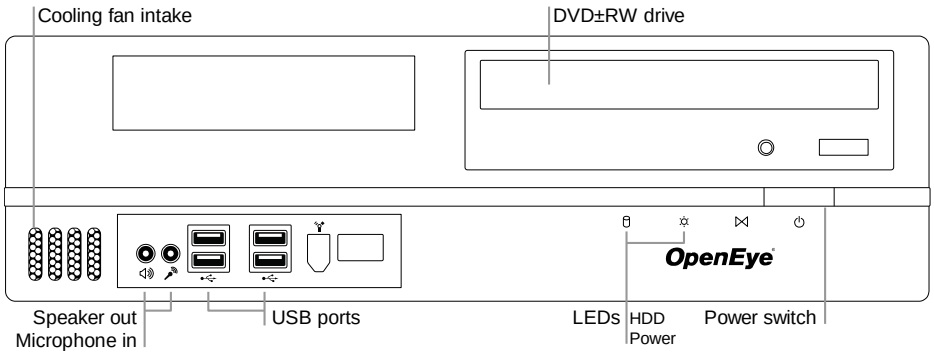
### N2 Front Panel



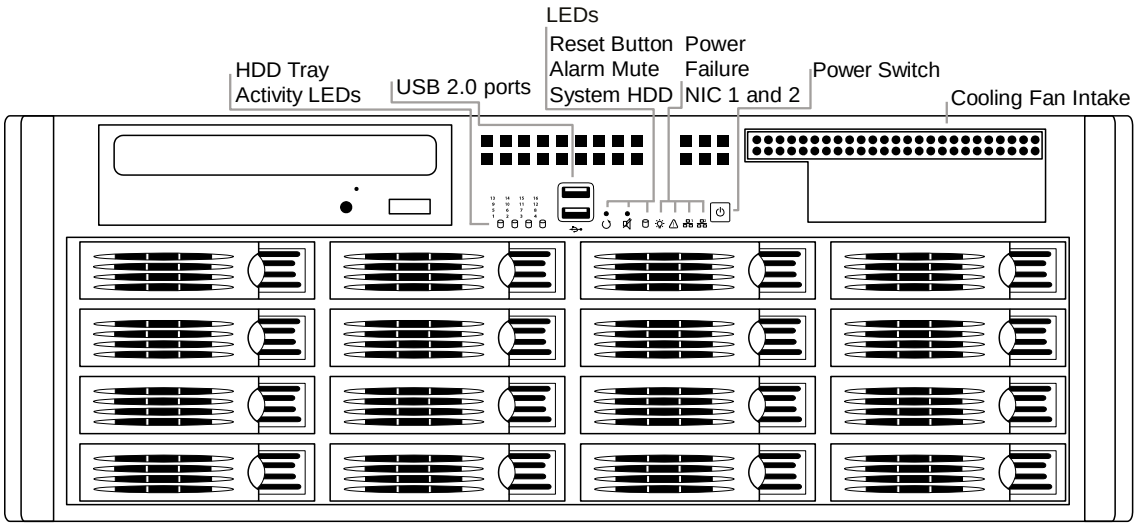

### N3 Front Panel



# NM FRONT PANEL



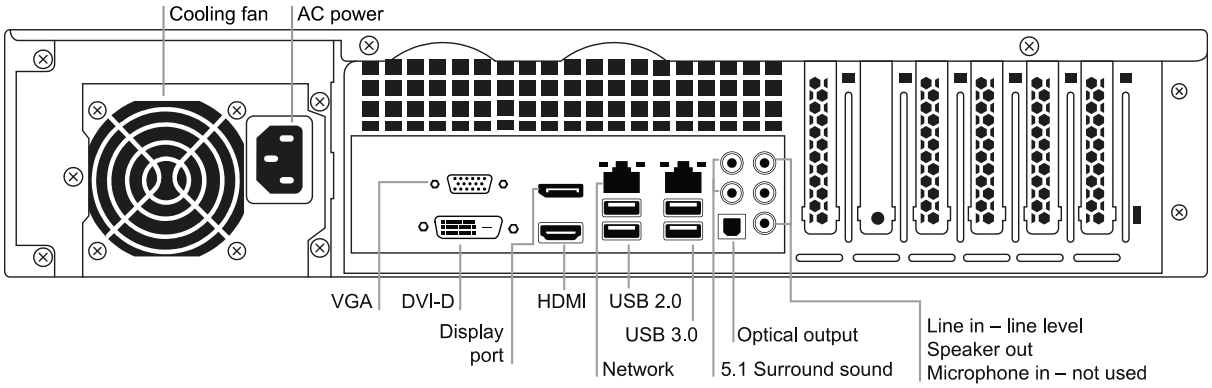

## N4 Front Panel



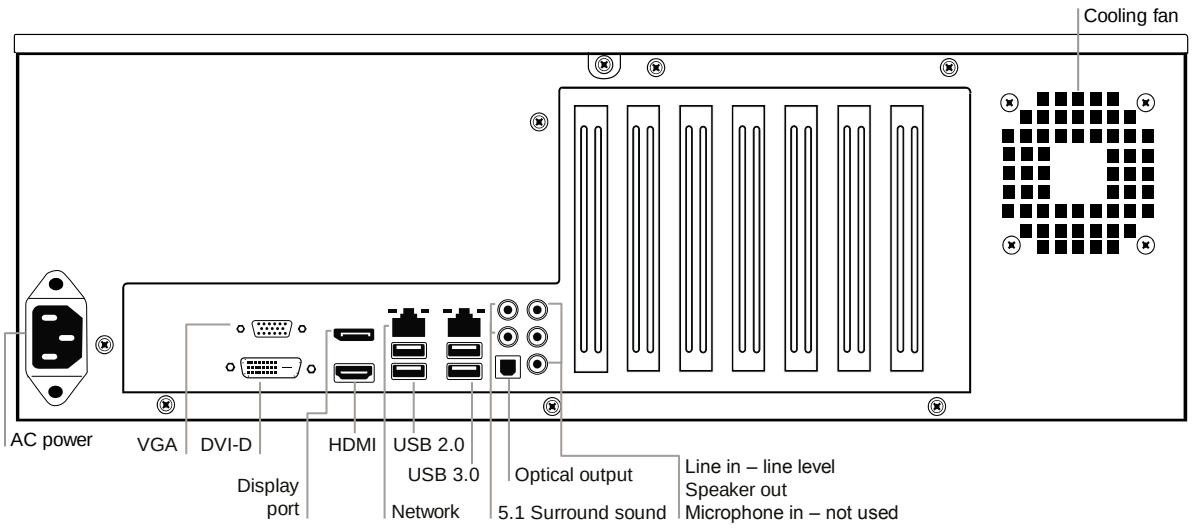
# REAR PANEL CONNECTORS

The rear panel of the recorder contains the connectors used to attach cameras, sensors, and relays to the recorder. Below are diagrams that outline the location and description of each connector:

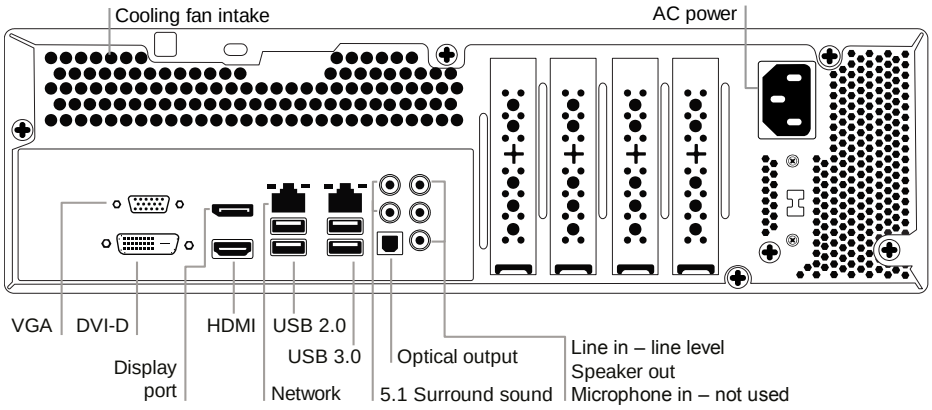
## N2 Rear Panel



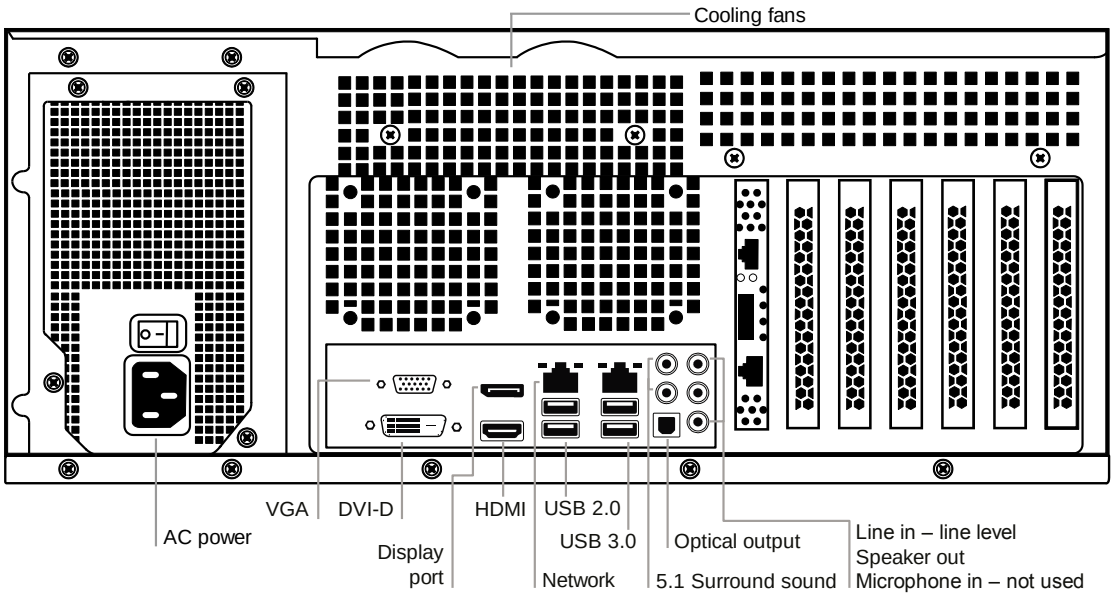

## N3 Rear Panel



## NM Rear Panel



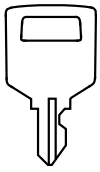
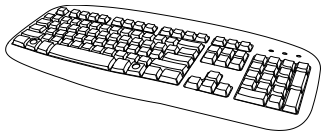
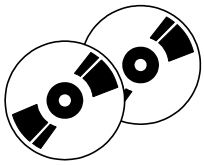
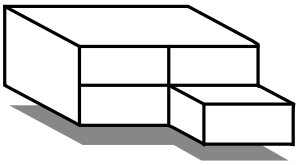

## N4 Rear Panel



# GETTING STARTED

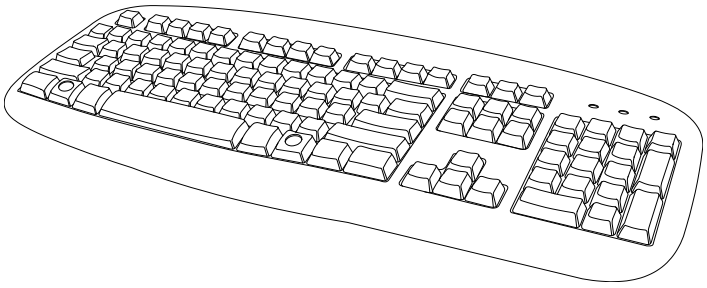
## IDENTIFYING INCLUDED COMPONENTS

OpenEye recorders come with a mouse, keyboard and selected software and cables. Identify the following components to make sure everything has been properly included with the new recorder. If any of the following items are missing, contact the dealer to arrange a replacement.

| | | |
|---|---|---|
|  **Case key** (varies by model) | **Mouse** |  **Keyboard** |
|  **Repair disc/ Software disc** | **Power cable** | **DVI to VGA adapter** |
|  **HDD drives (Shipped separately for N4 only)** | **Bezel Cover (N2 and N4 only)** | **Rackmount rail kit (N2 and N4 only)** |

# KEYBOARD SETUP

To attach the keyboard to the recorder, plug the end of the Keyboard into a USB port located on the back of the machine.



# MOUSE SETUP

To attach the mouse to the recorder, plug the end of the mouse into a USB port located on the back of the machine.

The mouse uses a cursor called a pointer. Pointers come in many different shapes but are most commonly shaped like an arrow.

The mouse has two buttons: a left button and a right button. Quickly pressing and releasing one of these buttons is called clicking. Sometimes you will need to double-click – or click the same button twice quickly.

In this manual:

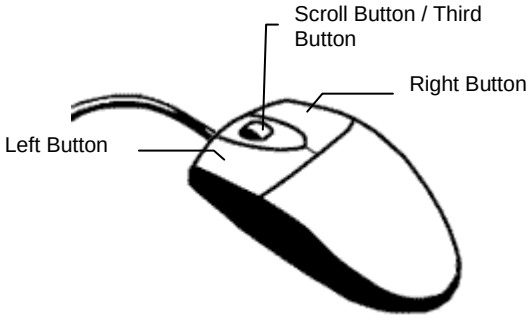
**Click** means to position the mouse cursor over an item and to single click the left button.

**Right click** means to position the mouse cursor over an item and to single click the right button.

**Double-click** means to position the mouse cursor over an item and to click the left button twice.

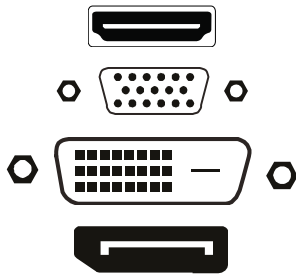
**Select** means to position the mouse cursor over a radio button, checkbox, or list item and click on it.

The scroll wheel in between the two buttons is used for added navigation functionality. By moving the wheel with index finger (scrolling), quickly move through multiple pages, lines, or windows. The wheel may also function as a third button allowing the user to quickly click or double-click an icon or a selected item



# MONITOR SETUP

These connections are available to connect a monitor.



| | |
|---|---|
| **HDMI Output** | To TV / Digital Display |
| **VGA Output** | To TV / Analog Monitor |
| **DVI-D Output** | To TV / Digital Display |
| **Display Port** | To TV / Digital Display |

Attach the monitor or monitors to the rear of the recorder using the cable supplied by the monitor manufacturer. Refer to the monitor manual for detailed information on how to setup and use it.

**Note** The monitor must be capable a minimum screen resolution of 1024 x 768 and support 32 Bit color.

# POWER SETUP

**WARNING:**
To reduce the risk of electrical shock or damage to the equipment:

Do not disable the power grounding plug.
The grounding plug is an important safety feature.

If the electrical plug you are using does not have a ground plug receptacle contact a licensed electrician to have it replaced with a grounded electrical outlet.

Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.

Disconnect the power from the computer by unplugging the power cord either from the electrical outlet or the computer.

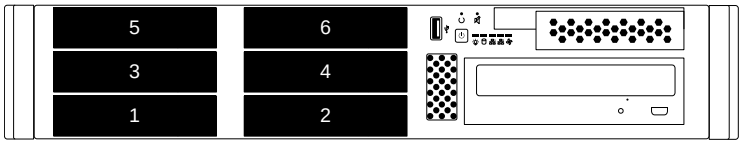
# HARD DRIVE ARRAY (N2 AND N4 ONLY)

Hard drives in the N2 and N4 recorders are arranged bottom to top in the HDD cage. A minimum of one and a maximum of sixteen hard drives may be installed in the hard drive cage. The N4 is shipped with the hard drives in a separate box. To insert the drives, follow these instructions. The drives must be inserted in order, 1-16 (depending on how many drives you purchased). The drive trays are marked with the number of their port. See the diagram for the order of the hard drive ports on the N2 and N4.

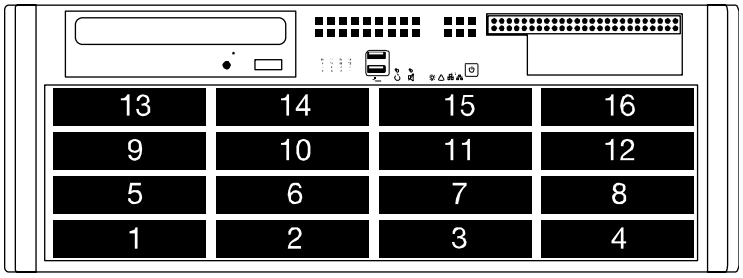
## Inserting a Hard Drive

1. Pull the blue button on the drive tray to release the latch.
2. Slide the drive tray into the drive cage.
3. Close the latch until it clicks, locking the drive tray in place.

### *N2 Drive Order*




### *N4 Drive Order*



# N2 AND N4 RACKMOUNT KIT INSTALLATION

This section provides information on installing the OpenEye 2U and 4U NVRs into a rack unit with the rack rails provided. There are a variety of rack units on the market which may mean the assembly procedure will differ slightly. You should refer to the installation instructions that came with the rack unit you are using.

## Preparing for Setup

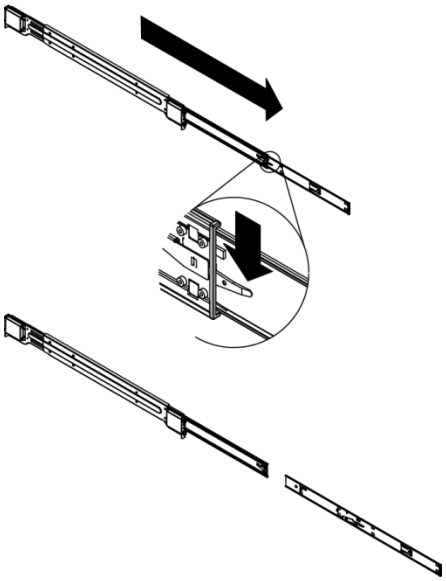
The box your OpenEye recorder was shipped in should include two sets of rail assemblies, two rail mounting brackets and the mounting screws you will need to install the system into the rack. Please read this section in its entirety before you begin the installation procedure outlined in the sections that follow.

**Note** These rails are designed to fit a rack between 26 and 33.5 inches deep.

## Separating the Section of the Rack Rails

The package includes two rail assemblies in the rack mounting kit. Each assembly consists of two sections: an inner fixed chassis rail that secures directly to the server chassis and an outer fixed rack rail that secures directly to the rack itself.

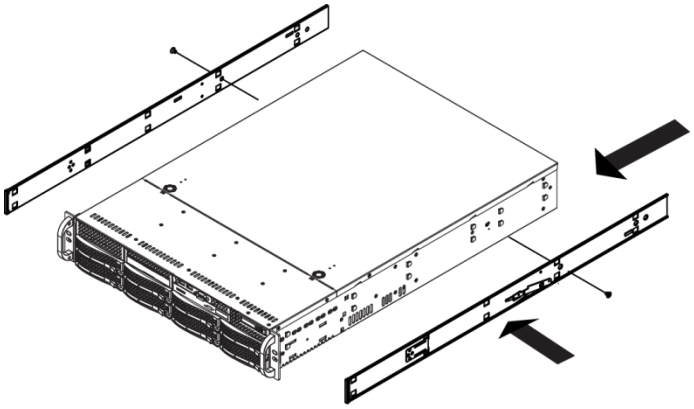
1. Locate the rail assembly in the packaging.
2. Extend the rail assembly by pulling it outward.
3. Press the quick-release tab.
4. Separate the inner rail extension from the outer rail assembly.
5. Repeat steps for the second rail assembly.



## Installing the Inner Rail Extensions

Each rackmount kit includes a set of inner rails in two sections: inner rails and inner rail extensions. The inner rails are pre-attached to the chassis, and do not interfere with normal use of the chassis if you decide not to use a server rack. The inner rail extension is attached to the inner rail to mount the chassis in the rack.

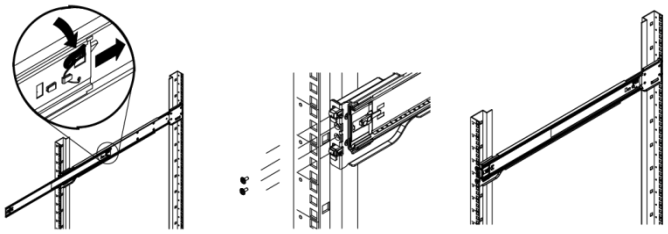
1. Place the inner rail extensions on the side of the chassis aligning the hooks of the chassis with the rail extension holes. Make sure the extension faces "outward" just like the pre-attached inner rail.
2. Slide the extension toward the front of the chassis.
3. Optional: Secure the chassis with 2 screws as illustrated. (4 screws are provided on N4 models.)
4. Repeat steps for the other inner rail extension.



## Installing the Outer Rack Rails

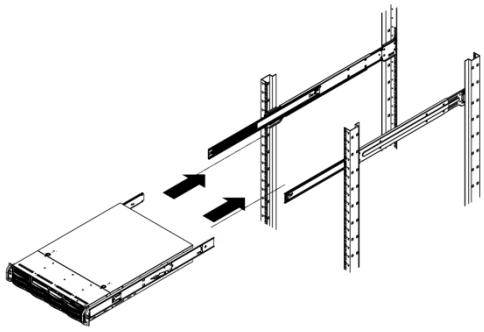
Outer rails attach to the rack and hold the chassis in place. The outer rails will extend between 30 inches and 33 inches.

1. Secure the back end of the outer rail to the rack, using the leaf springs and screws provided.
2. Press the button where the two outer rails are joined to retract the smaller outer rail.
3. Hang the hooks of the rails onto the rack holes and if desired, use screws to secure the front of the outer rail onto the rack.
4. Repeat steps for the other outer rail extension.



## Installing the Recorder into a Rack

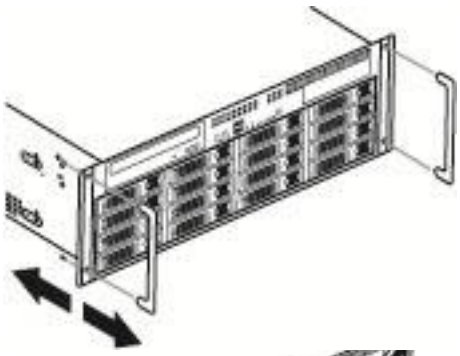
1. Extend the outer rails.
2. Align the inner rails with the outer rails on the rack.
3. Slide the inner rails into the outer rails, keeping pressure even on both sides. When pushed all the way into the rack, the rails will click into a locked position (preventing removal without pressing the quick-release tabs).

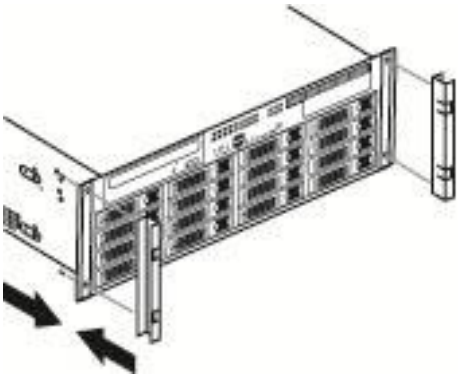


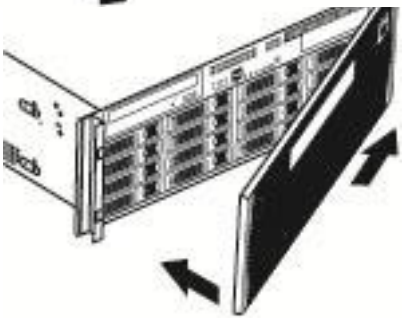
# N4 FRONT BEZEL INSTALLATION

The N4 is shipped with handles attached to the front of the unit. If you choose to mount the front bezel to your recorder, you will need to remove the handles and attach the bezel before attaching the rackmount rails.

1. Remove the two screws from each handle.
2. Install the include bezel clips and fasten with screws.
3. Align and slide the right side of the bezel into the right clip.
4. Slide the left side of the bezel into the left clip.
5. Lock the bezel by turning the key counterclockwise.







# TURNING ON YOUR RECORDER

1. Turn on the monitor and any external peripherals (ex. Printers, External Storage Devices, etc.) connected to the recorder.
2. Turn on the Secondary Power Switch located in the rear of the recorder.
3. Press the Power Switch located on the front of the recorder.
4. The recorder will run a series of self-tests. If asked to respond to any messages, follow the instructions carefully.
5. Startup is complete when the OpenEye recorder software is finished loading and displays the main menu screen.

# TURNING OFF YOUR RECORDER

1. On the Live screen of the Server Software, click **Exit**.
2. Select **Power Off** from the list and click OK.
3. The recorder may take several minutes to shut down completely.

**Caution** Always be sure to follow the proper procedures when turning off the power. NEVER disconnect the power to the recorder while it is still running or in the process of shutting down. Doing so can cause data loss, file corruption, system instability and hardware failure.

# NVR BASICS

## SETTING THE TIME AND DATE

1. Exit to Windows by clicking **Exit** on the Display screen, and then clicking **Restart in Windows Mode**.
2. Click **OK**.
3. Click **Start** ( **)**, and then click **Control Panel**.
4. Click **Date and Time**, and then click **Change Date and Time**.
5. Adjust the Date and Time.
6. When finished, click **OK**, and then click **OK** again.
7. Close any open windows.
8. Click **Start**, and then click **Shutdown**.
9. Select **Restart**.

## ACCESSING THE DVR UTILITY

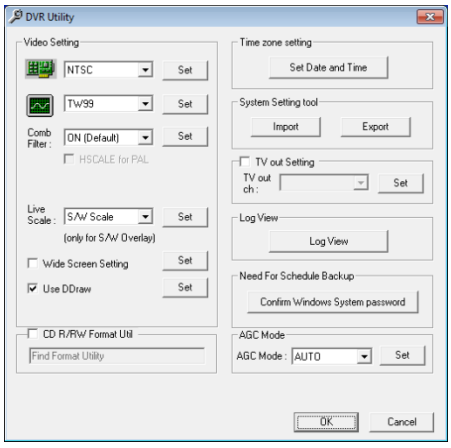
### Exporting Settings

Exporting settings can help configure multiple recorders quickly or reconfigure a unit that has been reset to factory defaults. Some things must be kept in mind when using this feature.

You cannot use this function on:

- Recorders that are different models.
- When upgrading from certain software versions. (This feature cannot be used when upgrading from v4.x to v5.x)

1. Exit to Windows by clicking **Exit** on the Display screen, selecting **Restart in Windows Mode,** and then clicking **OK**.
2. Click **Start > All Programs > OpenEye > vFormat**.
3. Click **Export** in the **System Setting Tool** section.
4. Select a location to save the settings file, and then click **Save**. The **DVR Utility** will export the settings and automatically close.

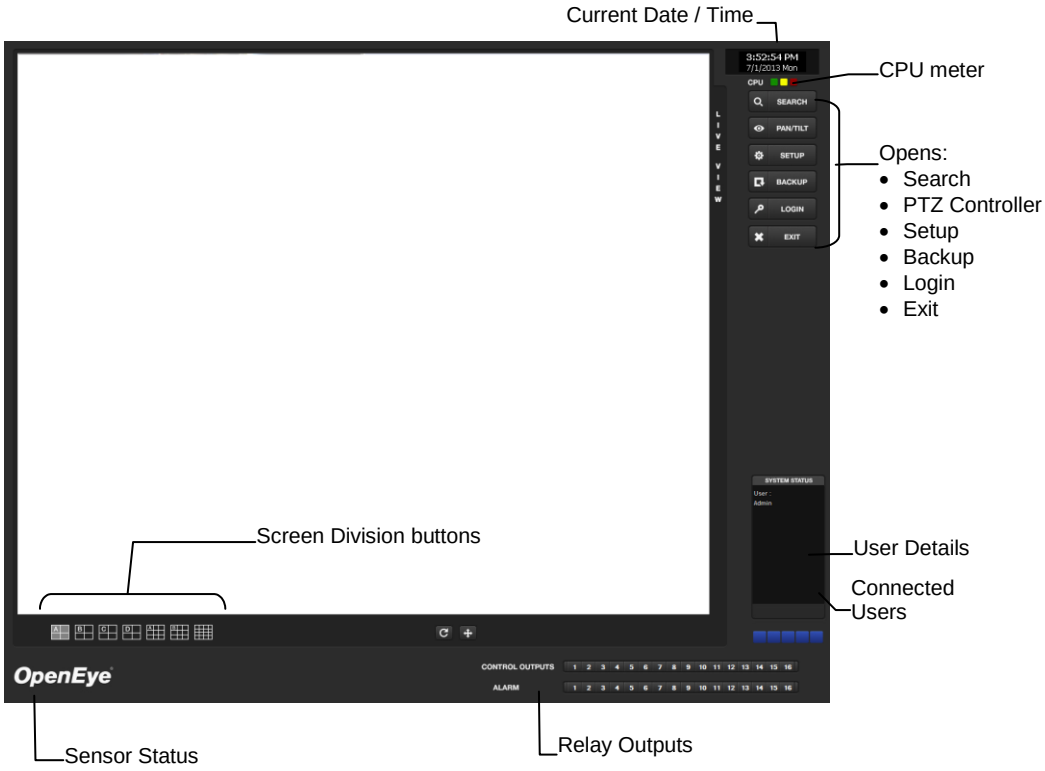


## Importing Recorder Settings

1. Exit to Windows by clicking **Exit** on the Display screen and then clicking **Restart in Windows Mode**.
2. Click **Start > All Programs > OpenEye > vFormat**.
3. Click **Import** in the **System Setting Tool** section.
4. Select the location of the settings file to import, and then click **Open**.
5. Click **Yes** to import the data file.

# DISPLAY SCREEN

The Display screen appears whenever the recorder starts. Familiarize yourself with the buttons and features on the Display screen, since this is the default screen for your recorder software.



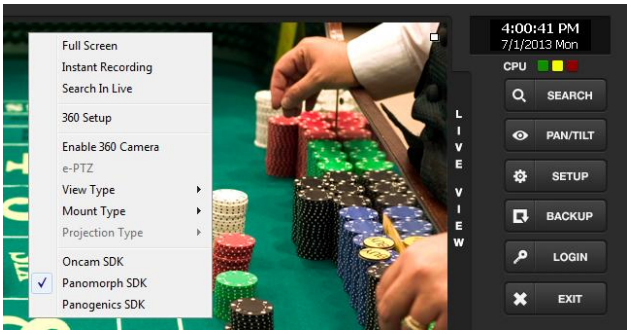

## CPU Meter

Use the CPU meter to monitor the system resources of your recorder.

- GREEN - System configuration OK
- YELLOW - Caution; evaluate system configuration and consider decreasing system load
- RED - System configuration has been exceeded which may affect stability; decrease system load or upgrade system with CPU performance package.

## Live Camera Options

Right-click a camera on the Display screen to display these options:




- **Full Screen –** Expand the camera window to the full size of the screen.
- **Instant Recording –** Begin Instant Recording for the selected camera channel.
- **Search In Live –** Rewind or fast-forward video from that camera at the present date and time.
- **360 Setup –** Configure settings for a 360 camera.
- **Enable 360 Camera –** Enable the use of a 360 camera.
- **e-PTZ –** Use the digital PTZ function on a 360 camera
- **View type –** Select the view for a 360 camera
- **Mount Type –** Select the type of mount that matches the location of your 360 camera.
- **Projection type –** Dewarp your 360 camera image in Spherical or Flat view (Panogenics cameras only)
- **Oncam SDK –** Select to dewarp video footage from an Oncam 360 IP camera
- **Panamorph SDK –** Select to dewarp video footage from an Immervision 360 camera
- **Panogenics SDK –** Select to dewarp video footage from an AMG Panogenics 360 camera

**Note** 360 Setup, Enable 360 Camera, e-PTZ, View Type, Mount Type, Projection Type, all require a 360 camera to function. If you do not have a 360 camera, ignore these functions.

# CAMERA VIEW

## Recording Status Indicator

The recording status for each camera is displayed in the upper right corner on the Video Display Area. There are three different recording statuses.

| | | |
|---|---|---|
| | **Recording** | Displayed when the camera is currently being recorded to the recorder. |
| | **Motion Detection** | Displayed when a camera (set up for motion detection) detects motion. |
| | **Display** | Displayed when the camera is currently not being recorded to the recorder. |

## Special Recording

There are two types of Special Recording. Text is displayed on the camera display area, indicating what type of Special Recording is activated.

**SENSOR**

Sensor is displayed when a sensor associated with the camera is activated.

**INSTANT**

Instant Recording is a manual activation of the recording for the selected camera. Regardless of the recording method, Instant Recording will start the camera recording and also flag the video for future searches using the Index Search feature. INSTANT is displayed when a user activates the instant recording option. Double right-click the video display to activate and deactivate the Instant Recording option.

# EDIT LIVE VIEW CHANNELS

By default, the recorder displays live video from four IP cameras at one time on the local server. This protects the processor resources for recording data. You can change your settings to allow 16 IP channels to be displayed in the live view. Be aware that displaying 16 channels of live IP video is resource-intensive and may dramatically impact system performance.

To enable the recorder to view 16 channels of live video:

1. Click **Exit** on the Display screen, and then select **Restart in Windows Mode.**
2. Double-click the **Edit Live View Channels** icon on the desktop.
3. Click **Yes**, and then click **OK**.
4. The live view display will switch to 16 channel mode. To return the recorder to 4 channel mode, repeat steps 2 and 3.
5. Double-click **OpenEye Serve**r to restart the recorder software.

# SCREEN DIVISION BUTTONS

**Note** When viewing live video from Network Cameras, only 4CH will display at one time. If more live view channels are required on the local server, see the Edit Live View Channels instructions.

**1st Four Cameras View** – Displays cameras 1-4 in the Video Display Area. To return to a different Multi-Camera View, select a different Screen Division option from the Screen Division menu.

**2nd Four Cameras View** – Displays cameras 5-8 in the Video Display Area. To return to a different Multi-Camera View, select a different Screen Division option from the Screen Division menu.

**3rd Four Cameras View** – Displays cameras 9-12 in the Video Display Area. To return to a different Multi-Camera View, select a different Screen Division option from the Screen Division menu.

**4th Four Cameras View** – Displays cameras 13-16 in the Video Display Area. To return to a different Multi-Camera View, select a different Screen Division option from the Screen Division menu.

**1st Nine Cameras View** – Displays cameras 1-9 in the Video Display Area. To return to a different Multi-Camera View, select a different Screen Division option from the Screen Division menu.

**2nd Nine Cameras View** – Displays cameras 10-18 in the Video Display Area. To return to a different Multi-Camera View, select a different Screen Division option from the Screen Division menu.

**Full Screen** – The Full Screen Option allows you to view the Video Display Area using the entire viewable area on the monitor. When this is selected, no menu options are visible. You can activate the Full Screen Option by clicking on the Full Screen button within the Screen Division menu. You can deactivate Full Screen mode by right clicking on the screen.

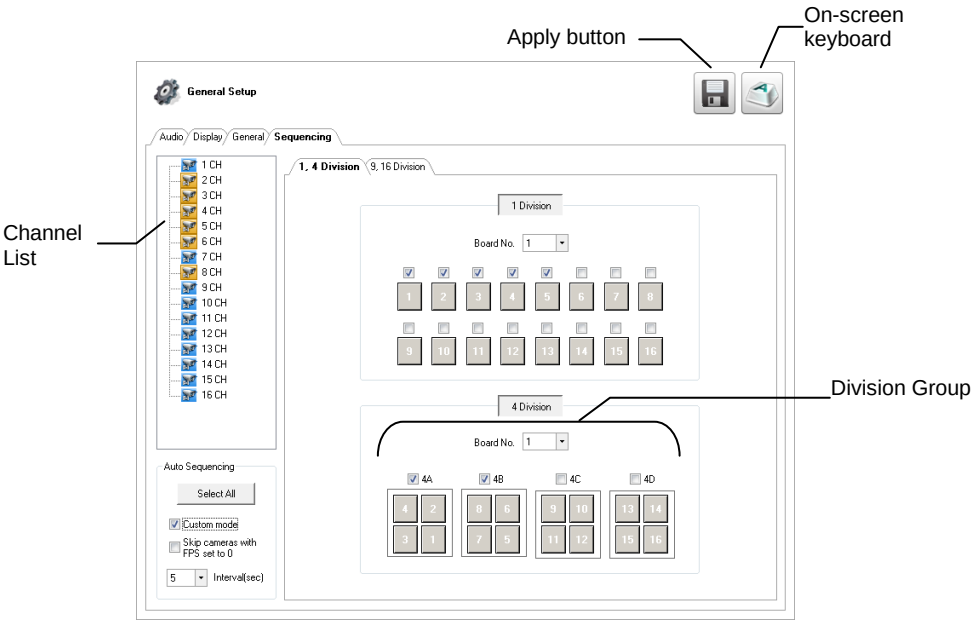
**Auto Sequence** – Sequences through the Screen Divisions sets. For example, selecting the 1A and then the Loop button will sequence through 1A, 2A, 3A, 4A and then repeat.

# Custom Live View Divisions

Customize your Display screen by changing the order of the cameras. Each screen division can be individually customized but a camera can only be displayed once in each group view. All selected screen divisions will be shown when AutoSequence is enabled on the Display screen. Be sure to clear any screen division you do not want to be displayed during AutoSequence viewing.

Create custom live view divisions:

1. On the Display screen, click **Setup**, and then click **General Setup**.
2. Click the**Sequencing** tab.
3. Drag and drop cameras from the **Channel List** to the desired location within the **Division Group**.




4. Select the screen intervals you want to display in each division area.
5. Set the **Interval** time (in seconds). This determines how long each sequence screen will appear on the Live display.
6. To save your settings, click **Apply**.

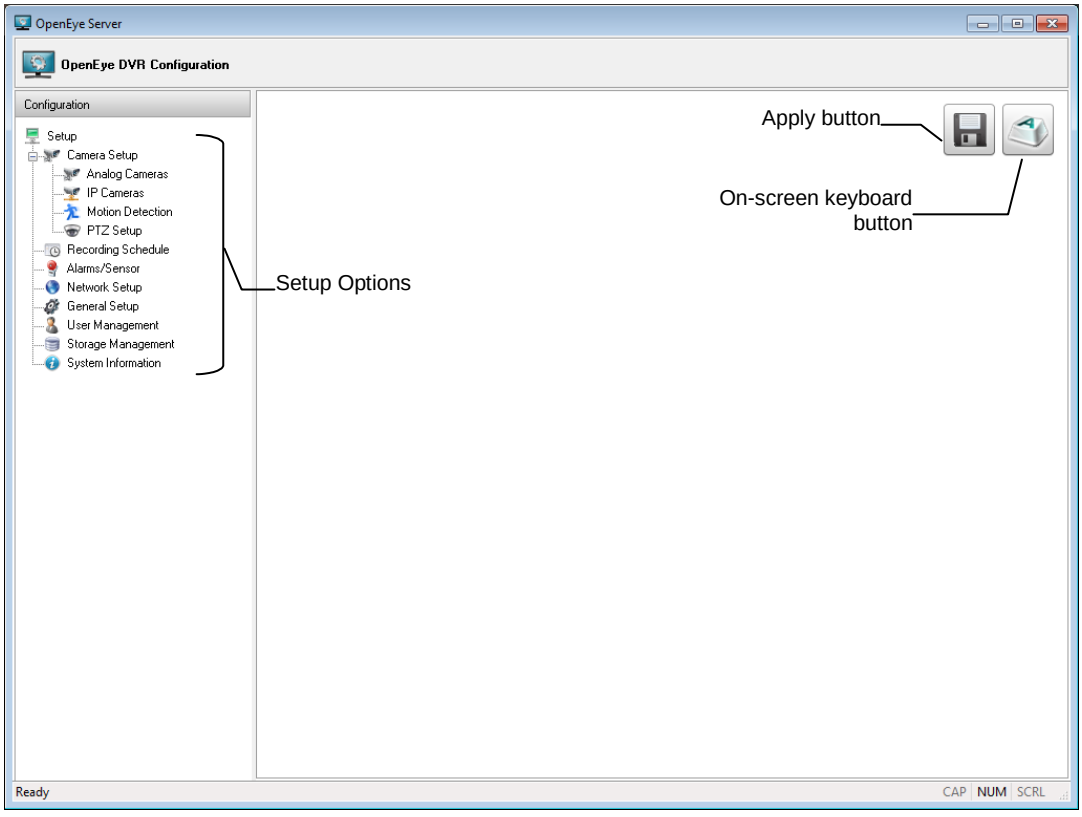
# SETUP OPTIONS

## SETUP OVERVIEW

The Setup options allow you to optimize your recorder by adjusting things like camera names, restart schedules, recording schedules and more.

- **Recording Schedules –** Increase the amount of useful recorded video that is saved on the recorder by optimizing the recording schedule. Optimize the type of recording by adding motion detection to this as well, again increasing the amount of useful video.
- **Camera Naming –** Name each camera so the location can be easily identified and include any other pertinent information that may be helpful when viewing it on the Video Display Area.
- **Configure Network Cameras –** Connect to and configure cameras that are available on the network the recorder is connected to.

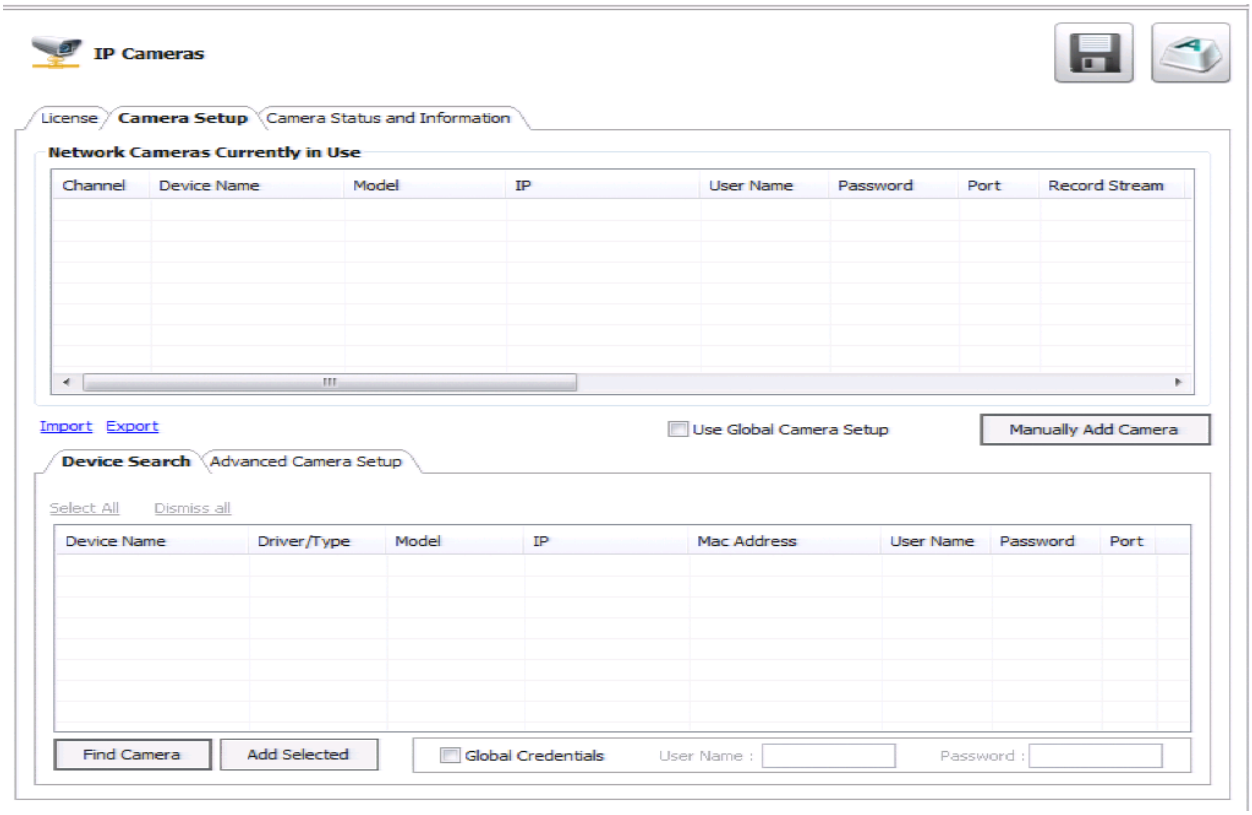
## SETUP MENU OVERVIEW



# NETWORK CAMERA SETUP

Connect IP cameras to your recorder using a network switch, which is connected to the network port on your recorder. By default, your recorder can display 4 IP camera channels in the Display screen. To change this setting, see the Edit Live View Channels section.

## Connecting a Network Device




### *Connecting Manually*

1. On the Display screen, click **Setup**.
2. Click **Camera Setup,** and then click **IP Cameras.**
3. Click **Manually Add Camera**.
4. Select the **Vendor** and **Model** of your network device from the **Device Type** list.
5. Type a **Device Name**.
6. Type the **IP/URL** address, **Port#**, **User ID** and **Password** of the device.
7. Click **Add**.
8. Double-click in the **Channel** field, and then select the Channel you want to assign this camera to.
9. Click **Apply**.

## Connecting with Find Cameras

1. On the Display screen, click **Setup**.
2. Click **Camera Setup,** and then click **IP Cameras.**
3. Click **Find Camera** to automatically find all connected Network cameras.
4. Select the check box next to your desired camera.
5. Type the **User ID** and **Password** of the device.
6. Click **Add Selected**.
7. The camera will appear in the Camera Setup tab.
8. Double-click in the **Channel** field, and then select the Channel you want to assign this camera to.
9. Click **Apply**.

## Naming Camera Channels

OpenEye recommends assigning a descriptive name to each camera channel for easy identification of where the camera is located. To name your IP camera channels, follow these instructions.

1. On the Display screen, click **Setup**.
2. Click **Camera Setup,** and then click **IP Cameras.**
3. Click the **Camera Setup** tab.
4. Double-click the **Device Name** column for the camera you want to name.
5. Type a name for your camera.
6. Click **Apply** to save the name.

## Import / Export Camera Configuration Settings

Server software allows you to import IP camera configuration settings and apply them to your cameras. You can also export IP camera configuration settings for backup purposes, or so the configuration can be used elsewhere. The configuration settings files are CSV files.

To export IP camera configuration settings from Server Software:

1. On the Display screen, click **Setup**.
2. Click **Camera Setup,** and then configure your IP camera list as desired.
3. Click **Export.**
4. Name your .csv file and then click **Save.**

To import IP camera configuration settings to Server Software:

1. On the Display screen, click **Setup**.
2. Click **Camera Setup,** and then click **Import.**
3. Identify the .csv file that you want to import, and then click **Open.**

## Assigning Dual Streams

Dual stream support enables you to take advantage of two different streams from an IP camera. One stream can be high definition forensic video, while the other stream can be a lower resolution for live display. This allows OpenEye RADIUS or Remote Viewer software to display more cameras while utilizing lower bandwidth and less CPU usage.

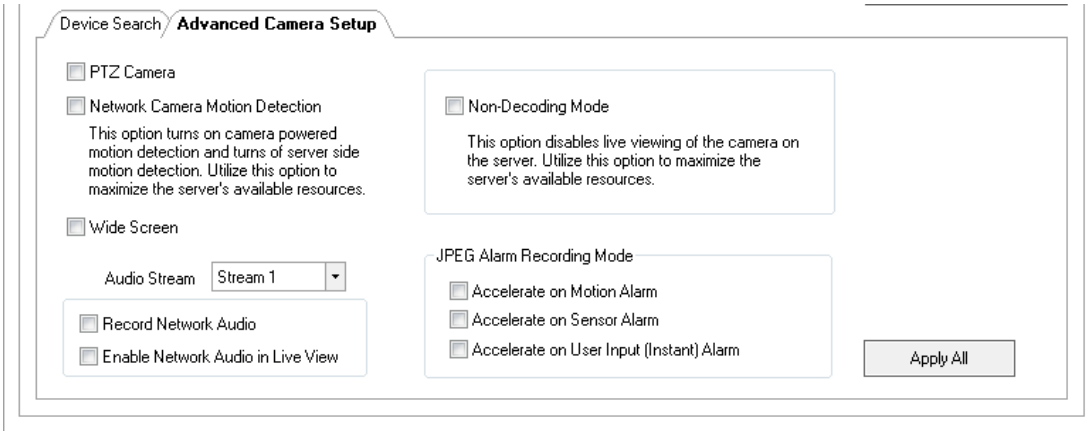
The second stream is used for motion detection in the server, which lightens the processing load for centrally-managed motion detection configurations

Dual streaming functions are limited to cameras that support this feature.

1. On the Display screen, click **Setup**.
2. Click **Camera Setup,** and then click **IP Cameras.**
3. Click the **Camera Setup** tab.
4. Choose which camera you want to configure, and double-click the **Record Stream** column.
5. Select which **Stream** you want to assign to be recorded.
6. Double-click the **Transmit Stream** column and choose the appropriate stream for remote viewing.
7. Click **Apply** to save your selections.

## Assigning Audio Channels to a Network Device

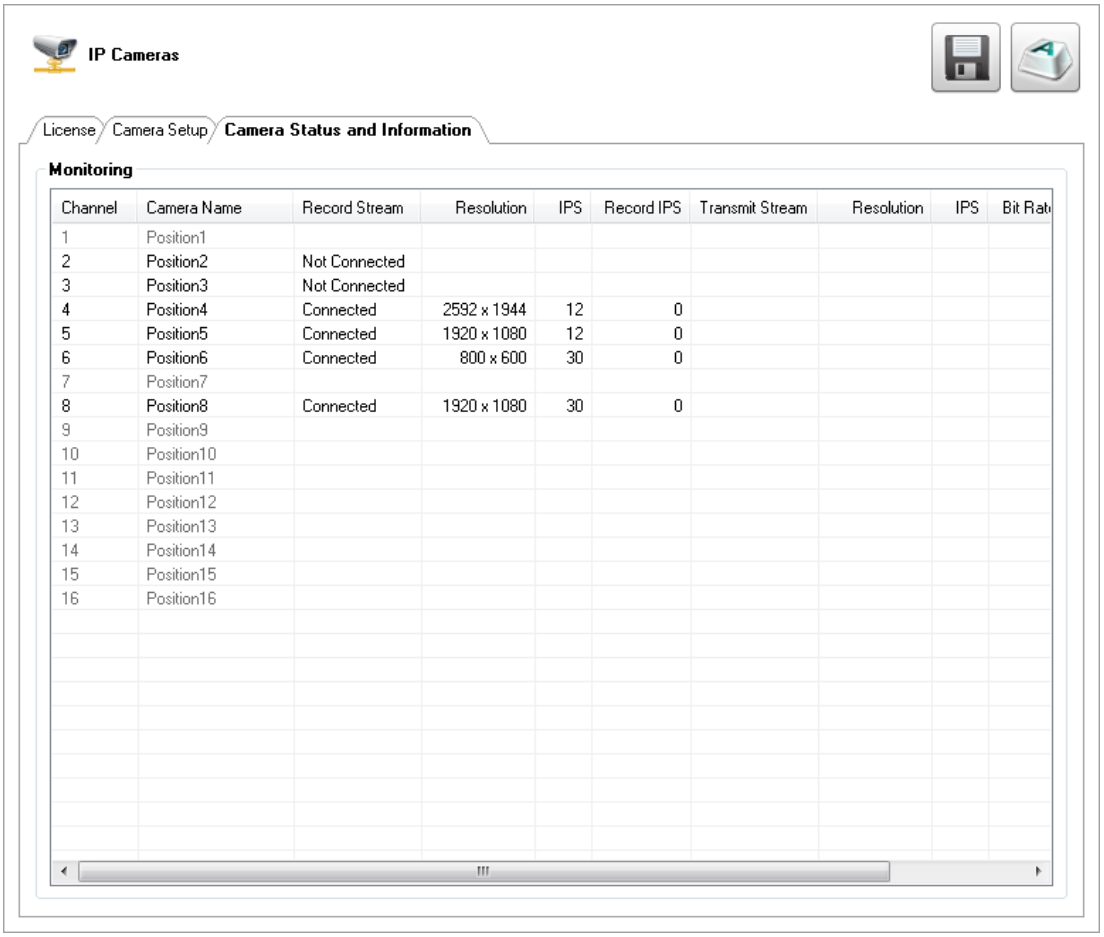
1. In the Display screen, click **Setup**.
2. Click **IP Cameras.**
3. Click the **Camera Setup** tab.
4. Click the **Advanced Camera Setup** tab.


Device Search
Advanced Camera Setup
PTZ Camera
Network Camera Motion Detection
This option turns on camera powered motion detection and turns of server side motion detection. Utilize this option to maximize the server's available resources.
Wide Screen
Audio Stream
Stream 1
Record Network Audio
Enable Network Audio in Live View
Non-Decoding Mode
This option disables live viewing of the camera on the server. Utilize this option to maximize the server's available resources.
JPEG Alarm Recording Mode
Accelerate on Motion Alarm
Accelerate on Sensor Alarm
Accelerate on User Input (Instant) Alarm
Apply All

5. Select the camera you want to record audio from in the **Network Cameras Currently in Use** field.
6. Select **Record Network Audio**.
7. To be able to hear live audio from the recorder, select **Enable Network Audio in Live View**.
8. Click **Apply** to save your settings.

## Camera Status and Information

The Camera Status and Information tab displays information for all cameras connected to the OpenEye recorder.




1. In the Display screen, click **Setup**.
2. Click **IP Cameras**.
3. Click the **Camera Configuration** tab.

## NVR Registration

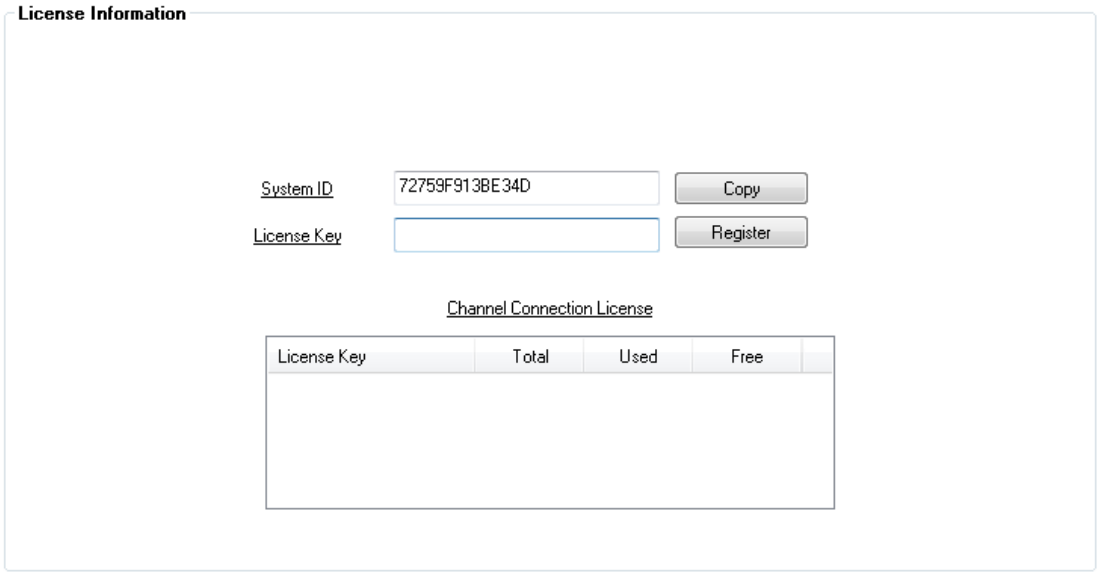
Have the following information available before registering the NVR upgrade.

*Product Serial Number:* This may be the Product Serial Number displayed on the product sticker on the left side of the recorder; or the unique Product Serial Number provided with the purchase of additional channel licenses.

*System ID:* The System ID is a number that is generated by the OpenEye unit. This is a unique code generated using the MAC address of the recorder.

## *Locating the System ID*

1. On the Display screen, click **Setup**.
2. Click **IP Cameras**.
3. Click the **License** tab.




## *Obtaining the License Key*

**Note** Multiple video streams can be recorded from a single device while only consuming a single recording channel license.

1. Open an Internet browser and go to: http://activate.openeye.net/nvr
2. Type the **Product Serial Number** and **System ID**.
3. Click **Next**.
4. Your Unlock Code will appear. Write this code down for use in unlocking your license.

**Note** Both the System ID and the Unlock Code are case sensitive.

**Note** We recommend printing the registration page with the Unlock Code for later reference.

### *Unlocking the Upgrade*

1. Return to **Setup > Network Cameras > License**.
2. Enter the Unlock Code generated by the OpenEye Registration Site into the **License Key** box.
3. Click **Register**.
4. Click **OK**.
5. Click **Apply**.
6. Click **Exit Setup**.

## Unlocking Additional Network Devices

Follow the instructions above for Registration and Upgrade to unlock any additional network devices.

# PTZ CAMERA SETUP

PTZ cameras can be configured and controlled using the OpenEye recorder software. For instructions on configuring and installing your PTZ camera, refer to the camera manual.

## Enabling an IP PTZ Camera

1. Ensure that you have properly connected your IP PTZ camera to the network.
2. On the Display screen, click **Setup**.
3. Click **IP Cameras**, and then click the **Advanced Camera Setup** tab.
4. Select the IP camera from the **Network Cameras Currently in Use** list.
5. Select **PTZ Camera**.
6. Click **Apply** to save your settings.

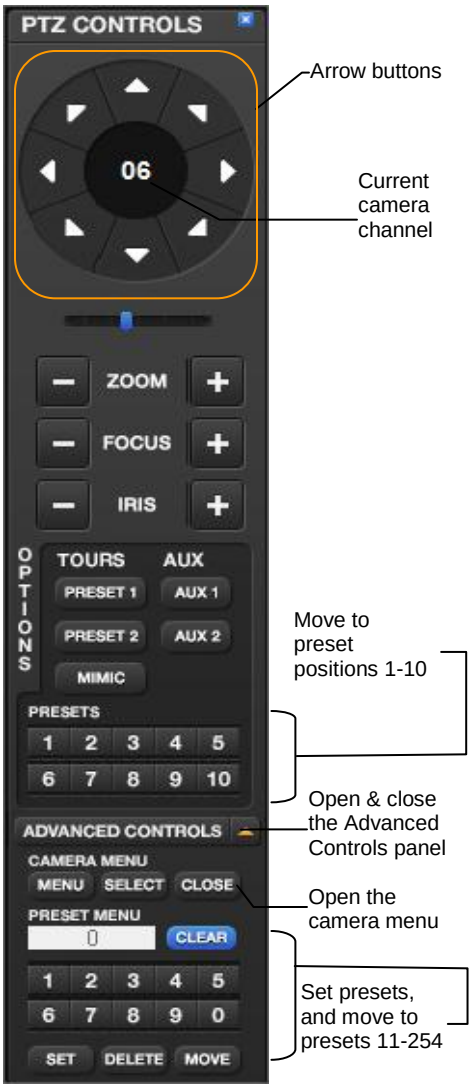
## Using the Graphical PTZ Controller

1. In the Display screen, click **Pan/Tilt**.
2. Click the viewing area of the PTZ camera you want to control.
3. Use the Arrow buttons to control the direction of the PTZ camera.
4. To select a new camera, click the video display of a different camera on the Display screen display.

**Note** Eight directions are available only for select cameras. Only four of the PTZ Control buttons work for all protocols (UP, DOWN, LEFT, RIGHT).

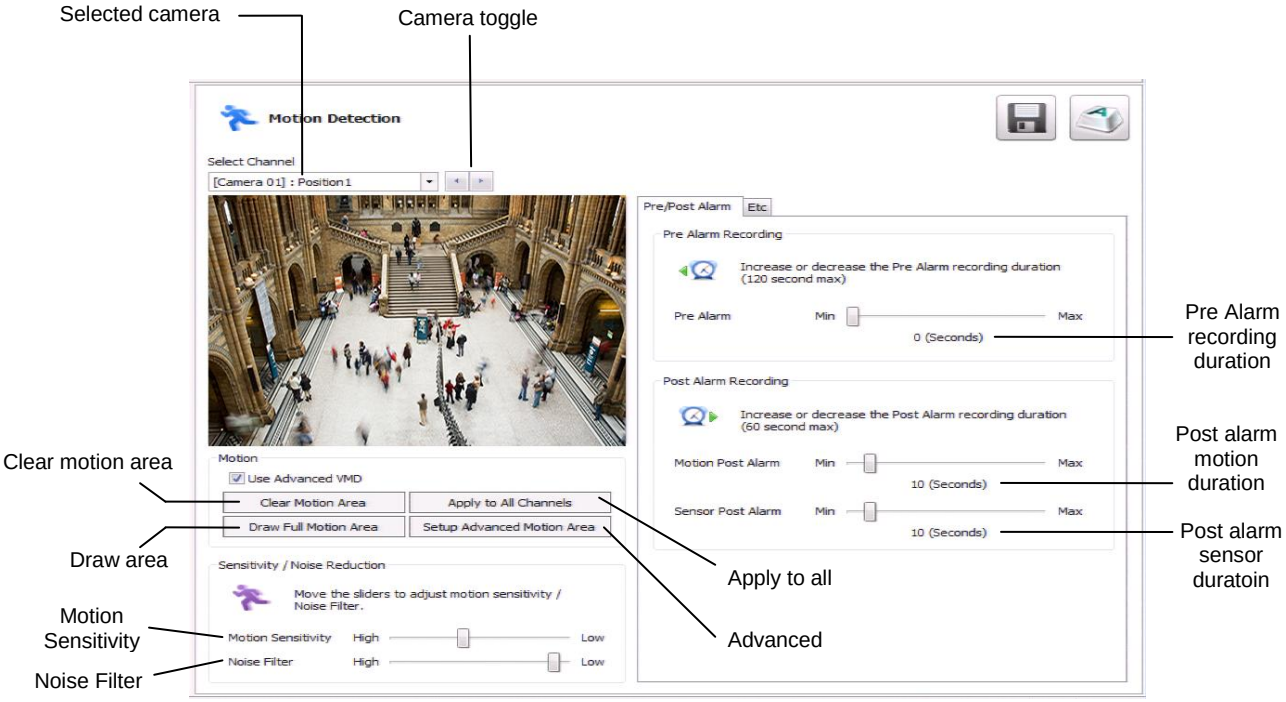
**Note** The Advanced menu panel on the graphical PTZ controller can be used to set PTZ preset positions (on supported cameras), as well as move to presets up to 254.

5. To exit the Graphical PTZ Controller, click **Pan/Tilt** again.



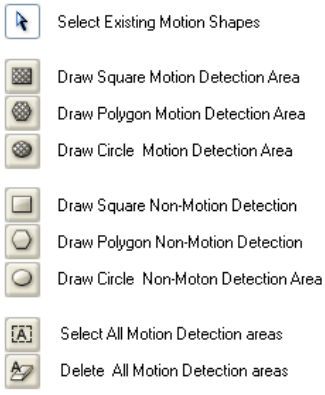
# MOTION DETECTION SETUP

The recorder allows the user to adjust several different Motion Settings and create motion detection areas.




## Create a Motion Area

1. On the Display screen, click **Setup**.
2. Click **Motion Detection**.
3. Select a camera from the **Select Channel** list.
4. Select **Detect Detail Motion Area**.
5. Click **Clear Motion Area**.
6. Click **Setup Advanced Motion Area**.
7. Click a **Motion Detection Area** shape button.
8. Drag the mouse over the camera image.


Select Existing Motion Shapes
Draw Square Motion Detection Area
Draw Polygon Motion Detection Area
Draw Circle Motion Detection Area
Draw Square Non-Motion Detection
Draw Polygon Non-Motion Detection
Draw Circle Non-Moton Detection Area
Select All Motion Detection areas
Delete All Motion Detection areas

**Note** To create a polygon shape, click the mouse at each point and double-click to close the shape.

9. Click **OK**.

10. Move the sliders to adjust motion sensitivity and the noise filter.
11. Define the pre-alarm and post-alarm recording time for a motion event.

**Pre Alarm Recording** – 0 - 120 Seconds [The number of seconds the recorder records before motion is detected—to ensure any motion occurring between I-frames is captured, set to a value greater than 0]

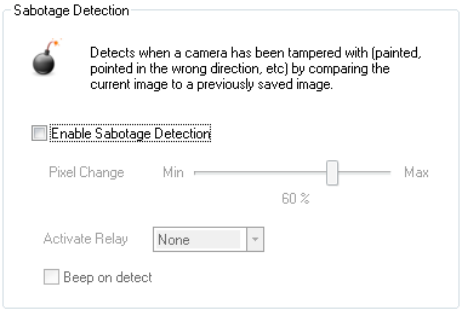
**Post Alarm Recording** – 0 - 120 Seconds [The number of seconds the recorder records after it stops detecting motion]

## Enable Sabotage Detection

The Camera Sabotage Detection feature will notify users that the field of vision of a camera has been compromised, abruptly changed, or detects significant vibration.

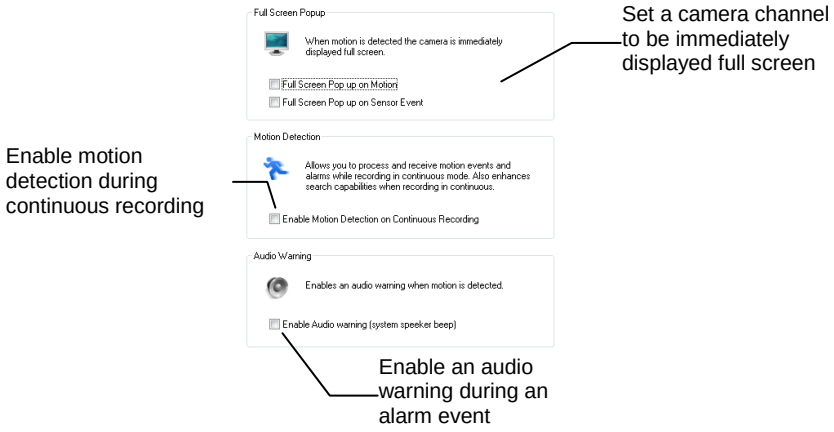
To enable Sabotage Detection:

1. In the Motion Detection window, click the Sabotage Detection tab.
2. Select **Enable Sabotage Detection**.
3. Set the **Pixel Change** threshold to reduce false alarms.
4. To activate an alarm relay on Sabotage Detection, click Activate Relay, and then select the appropriate relay number.
5. Select the **Beep on Detect** check box to enablethe recorder to emit an audible beep on Sabotage Detection.
6. Click **Apply** to save your settings.


Sabotage Detection
Detects when a camera has been tampered with (painted, pointed in the wrong direction, etc) by comparing the current image to a previously saved image.
Enable Sabotage Detection
Pixel Change
Min
Max
60 %
Activate Relay
None
Beep on detect

## Etc.

Additional motion detection configuration options are found on the Etc. tab. Use this tab to set a camera channel to appear at full screen in the Display screen when a motion or sensor event is detected. You can also set your recorder to enable motion detection even during continuous recording, or play an audio warning when an alarm event is detected.

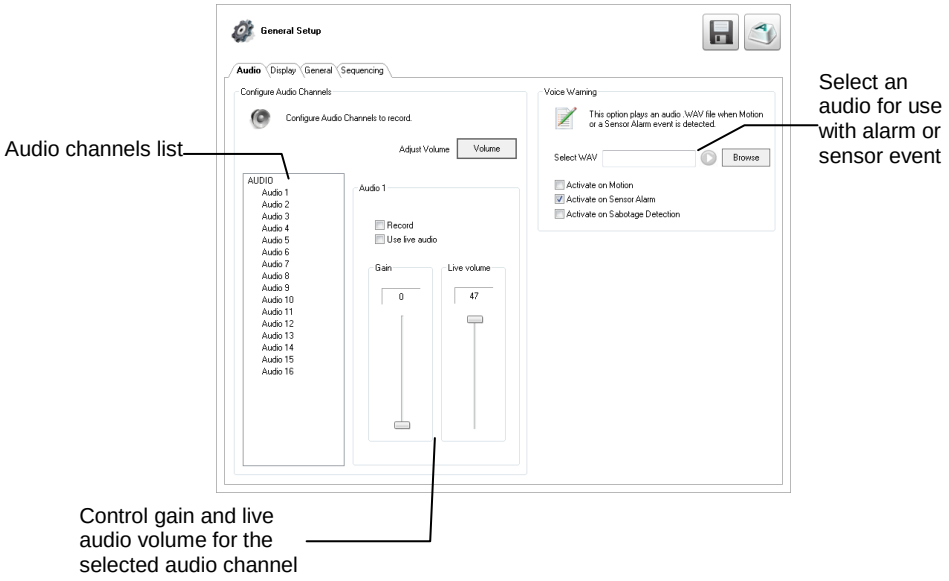

Full Screen Popup
When motion is detected the camera is immediately displayed full screen.
Full Screen Pop up on Motion
Full Screen Pop up on Sensor Event
Set a camera channel to be immediately displayed full screen
Motion Detection
Allows you to process and receive motion events and alarms while recording in continuous mode. Also enhances search capabilities when recording in continuous.
Enable Motion Detection on Continuous Recording
Enable motion detection during continuous recording
Audio Warning
Enables an audio warning when motion is detected.
Enable Audio warning (system speeker beep)
Enable an audio warning during an alarm event

# GENERAL SETUP

To access the General Setup window, click **Setup** in the Live screen, and then click **General Setup**.

## Audio

The Audio tab allows you to configure audio channels, audio playback, and set a voice warning.




### *Configure Audio Channels*

#### System Volume

1. Click **Volume** to adjust the volume of your system.
2. Use the slider, enter a value, or click **Mute** to disable audio playback.
3. Click **OK**.

#### Audio Channels

1. Select an **Audio Chanel**.
2. Select **Record** and **Use Live Audio**, as desired.
3. Adjust the gain and **Live Volume** for each channel, depending on your desired output and microphone sensitivity.
4. Click **Apply** to save your settings.

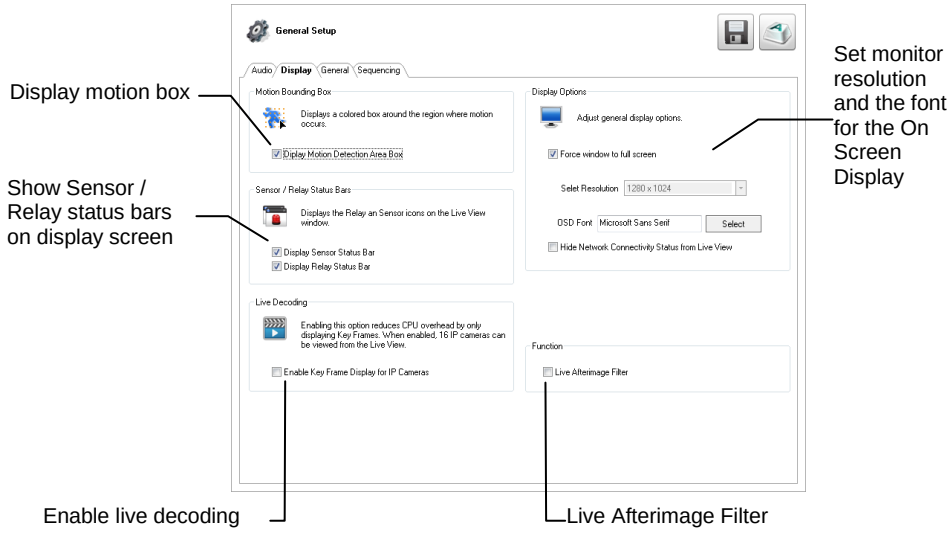
### *Voice Warning*

The recorder allows users to play a sound file when either a Motion event or Sensor event occurs. This file can be a custom created sound file that is unique to the application. The selected WAV file is played through speakers attached to the recorder.

1. Click **Browse**, and then locate your .wav file.
2. Click **Play** to test the file.
3. Select **Activate on Motion**, **Activate on Sensor Alarm**, or **Activate on Sabotage Detection** to activate this warning whenever that event occurs.
4. Click **Apply** to save your settings.

## Display

The Display tab allows you to control the on-screen appearance of your recorder, including the resolution and configuration of multiple monitors.




**Motion Bounding Box –** Select **Display Motion Detection Area Box** to see a colored boundary highlighting the area motion occurs.

**Sensor / Relay Status Bars –** Select **Display Sensor Status Bar** or **Display Relay Status Bar** to see icons when sensors or relays are activated.

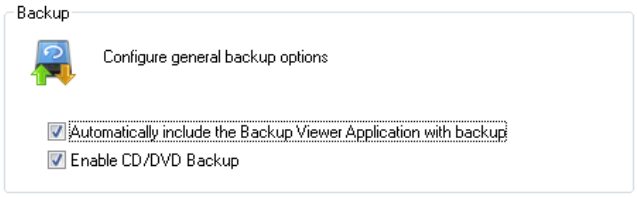
**Live Decoding –** Select **Enable Key Frame Display** for IP Cameras to reduce the processing load by only displaying key frames.

## *Display Options*

1. To allow the display resolution to automatically adjust to the resolution of any monitor, select **Force Window to Full Screen**.
2. To manually select a resolution, clear **Force Window to Full Screen**, and then click **Select Resolution**.
3. To change the font of your On Screen Display, click **Select**.
4. Select your desired **Font** and **Size**. Select **Bold** if desired.
5. When you have selected your font, click **OK**.
6. Select **Hide Network Connectivity Status from Live View** if desired.
7. Click **Apply** to save your settings.

# General

Use the General tab to configure your overall backup options.


Backup
Configure general backup options
Automatically include the Backup Viewer Application with backup
Enable CD/DVD Backup

**Automatically Include the Backup Viewer Application with Backup –** Disabling this option will require Backup Viewer to be manually installed on a computer before viewing the video.

**Enable CD/DVD Backup –** Disabling this option will allow only USB backup from this recorder.

# Sequencing

The Sequencing tab allows you to set the parameters for viewing groups of screens in sequence in the Live View.

## *Auto Sequence*

Auto Sequencing is available either in the Display screen when Auto Sequencing has been enabled. Auto Sequencing conveniently displays video channels at specified intervals and sequences through each selected channel.

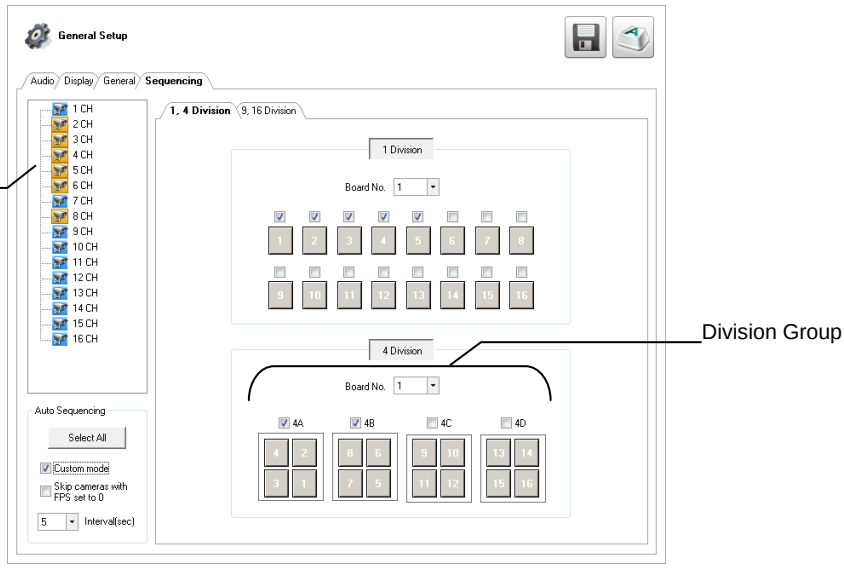
**Custom Mode –** Create non-standard screen division layouts.

**Skip 0 FPS Channel –** Sequence skips cameras with no video signal.

## *Create Custom Auto Sequence*

Each screen division can be individually customized but a camera can only be displayed once in each group view. All selected screen divisions will be shown when AutoSequence is enabled on the Live View. Be sure to clear any screen division you do not want to be displayed during AutoSequence viewing.

1. On the Display screen click **Setup**, and then click **General Setup**.
2. Click the**Sequencing** tab.
3. Drag and drop cameras from the **Channel List** to the desired location within the **Division Group**.

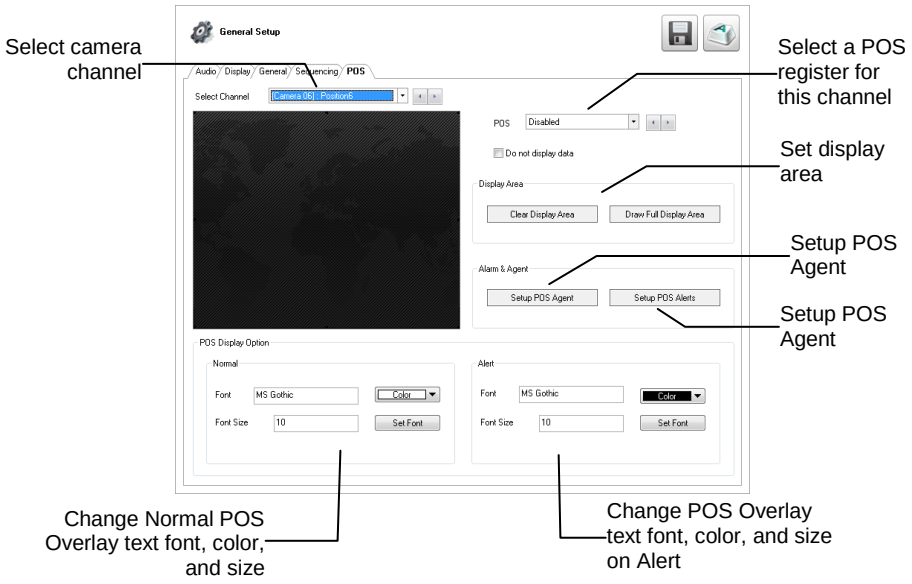



4. Select the screen intervals you want to display in each division area.
5. Set the **Interval** time (in seconds). This determines how long each sequence screen will appear on the Live display.
6. To save your settings, click **Apply**.

# POS

The POS tab allows you to integrate your recorder with the Point of Sale (POS) function of Video Analytics software.

**Note** You must have Video Analytics software installed on your recorder to access the POS setup tab. Contact an OpenEye sales representative for more information about video analytics software.




## *Basic POS Setup*

You can display real-time information from POS transactions over live video. To set up this function, you will need to link camera channels to the appropriate POS stations. You can also set the font, size, and color for the overlay during normal POS transactions, and set different text settings for Alert POS transactions.

For more information about setting up your POS system, please refer to the manuals for your POS system and your Vidoe Analytics software.

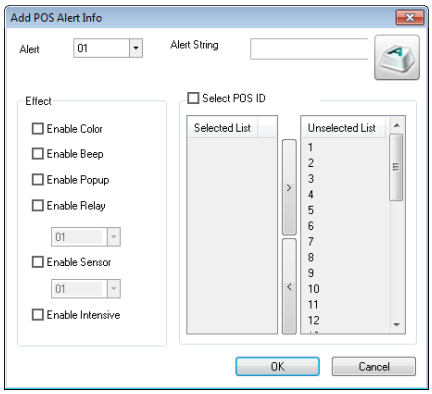
1. Select you desired camera channel in the **Select Channel** list.
2. Select your desired POS station in the **POS** list.
3. If you want to record POS data over the video, but not display it live, select **Do Not Display Data**.
4. Set your desired **Font**, **Color**, and **Font Size** in the **Normal** section, and then click **Set Font**.
5. Set your desired **Font**, **Color**, and **Font Size** in the **Alert** section, and then click **Set Font**.
6. Click **Apply** to save our changes.
7. Repeat these steps for all camera channels to be associated with POS terminals.

# POS Alerts

To create POS alerts, you will need to set an alert schedule.

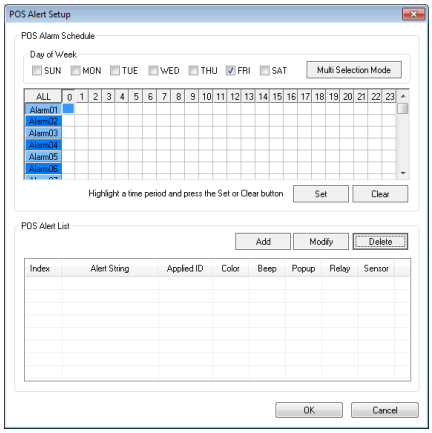
## Creating a POS Alert

1. On the POS Setup screen, click **Setup POS Alerts**.
2. In the **POS Alert List** section, click **Add**.
3. Type a name for your alert in the **Alert String** field.
4. Select a number to assign to this Alert in the **Alert** list.
5. Select the **Effect** you want this alert to enable when triggered.
6. To associate this alert with a specific POS terminal, select **Select POS ID**, and then select the POS ID from the **Unselected List**.
7. Click **<** to add the selected POS IDs to the **Selected List**.
8. Click **OK**.




## Creating a POS Alarm Schedule

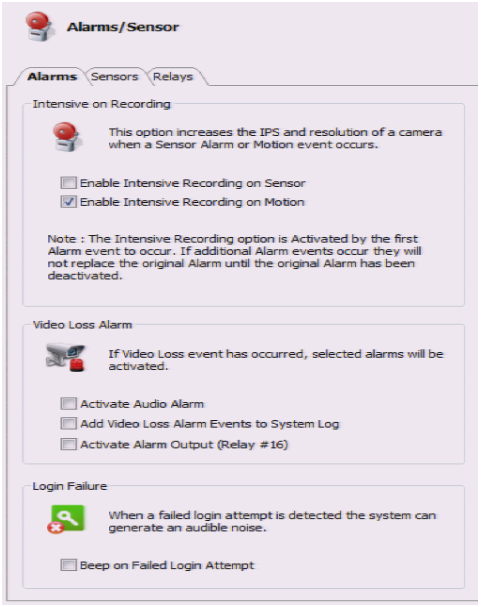
1. Click **Single Selection Mode** to enable **Multi Selection Mode**.
2. Select the days of the week for your alarm schedule.
3. Click **Alarm01**.
4. In the **Alarm01** row, click and drag to select the hours of the day you want to enable the alarm.
5. Click **Set**.
6. Repeat steps **4 – 5** for each alarm you want to create.
7. When you have finished, click **OK**.
8. In on the POS tab of the General Settings screen, click **Apply** to save your settings.



# ALARMS / SENSOR

Use the Alarms/Sensor menu to configure your alarms, sensors, and relays. To access the Alarms/Sensors Setup screen, click **Setup** on the Live screen, and then click **Alarms/Sensor**.

## Alarms

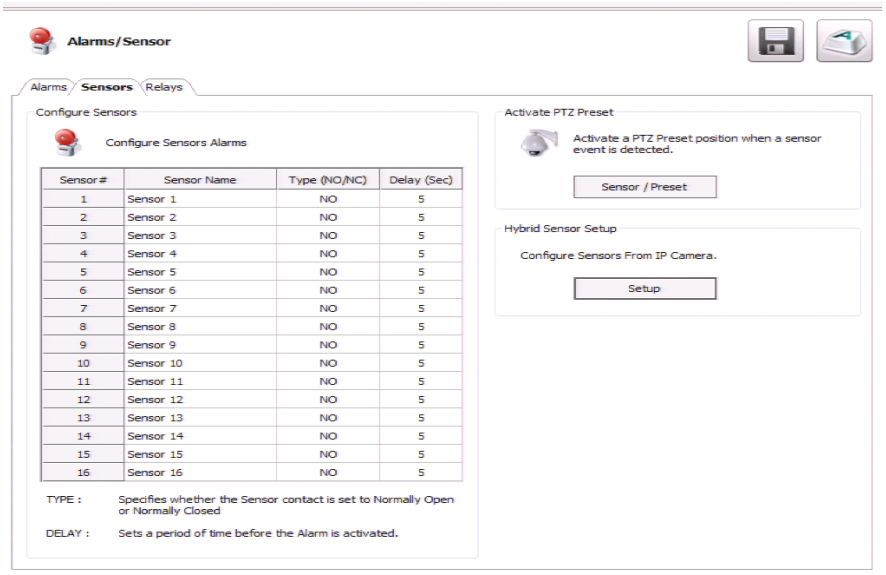

Alarms/Sensor
Alarms
Sensors
Relays
Intensive on Recording
This option increases the IPS and resolution of a camera when a Sensor Alarm or Motion event occurs.
Enable Intensive Recording on Sensor
Enable Intensive Recording on Motion
Note : The Intensive Recording option is Activated by the first Alarm event to occur. If additional Alarm events occur they will not replace the original Alarm until the original Alarm has been deactivated.
Video Loss Alarm
If Video Loss event has occurred, selected alarms will be activated.
Activate Audio Alarm
Add Video Loss Alarm Events to System Log
Activate Alarm Output (Relay #16)
Login Failure
When a failed login attempt is detected the system can generate an audible noise.
Beep on Failed Login Attempt

**Intensive on Recording –** Enable this function to increase the frame rate and resolution for a camera if an alarm or sensor is activated, or if motion is detected.

**Video Loss Alarm –** Determine how the recorder will respond if a camera channel loses video. The recorder can beep, the loss can be added to the System Log, or you can activate an external alarm.

**Login Failure –** Enable this function for the recorder to beep continuously in response to a failed login attempt. Only an authorized login will stop the beeping.

## Sensors


Alarms/Sensor
Alarms
Sensors
Relays
Configure Sensors
Configure Sensors Alarms
Sensor# | Sensor Name | Type (NO/NC) | Delay (Sec)
1 Sensor 1 NO 5
2 Sensor 2 NO 5
3 Sensor 3 NO 5
4 Sensor 4 NO 5
5 Sensor 5 NO 5
6 Sensor 6 NO 5
7 Sensor 7 NO 5
8 Sensor 8 NO 5
9 Sensor 9 NO 5
10 Sensor 10 NO 5
11 Sensor 11 NO 5
12 Sensor 12 NO 5
13 Sensor 13 NO 5
14 Sensor 14 NO 5
15 Sensor 15 NO 5
16 Sensor 16 NO 5
TYPE : Specifies whether the Sensor contact is set to Normally Open or Normally Closed
DELAY : Sets a period of time before the Alarm is activated.
Activate PTZ Preset
Activate a PTZ Preset position when a sensor event is detected.
Sensor / Preset
Hybrid Sensor Setup
Configure Sensors From IP Camera.
Setup

### *Configure Sensors*

1. Double-click a **Sensor Name**, and then type an appropriate name for your alarm sensor.
2. Double-click **Type**, and then select the contact type for this alarm, Normally Open (**N0**), or Normally Closed (**NC**).
3. Double-click **Relay**, and type the time, in seconds, you want to elapse between the detection of the sensor and when the alarm is activated.

## Activate PTZ Preset

Use this function to activate a PTZ camera to move to a preset position when a sensor event is detected.

1. Click **Sensor / Preset**.
2. Select the camera **Channel** you want to configure.

**Note** The camera channel must be a PTZ camera.

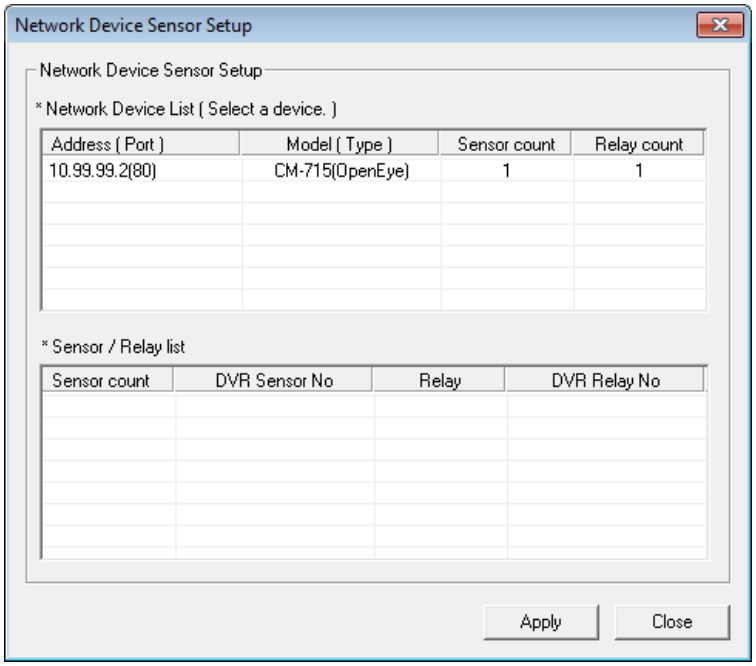
3. Select the appropriate **Sensor**.
4. Select the appropriate **Preset** position for the camera to move to when the selected Sensor is activated..

**Note** The preset positions must be configured on your camera. Refer to the camera manual for instructions.

5. Click **Set**.
6. Select a different **Sensor** and **Preset** combination, and then click **Set**.
7. Repeat for all of your desired sensors.
8. To delete a Sensor-Preset combination, select the combination in the list, and then click **Delete**.
9. Click **OK**.

## *Hybrid Sensor Setup*

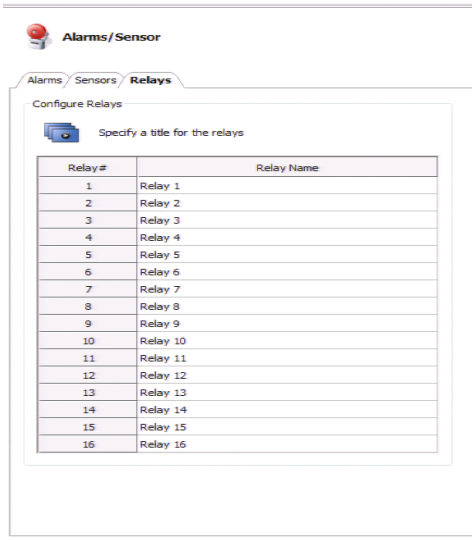
This interface is used to link Hard Contact Sensor Inputs from supported Network Devices to the recorder software.




1. Click **Setup**.
2. Select a camera from the **Network Device List**.
3. In the Sensor Relay list, double-click **DVR Sensor No** and then select a sensor to assign to this camera.
4. Double-click **DVR Relay No**, and then select a relay to assign to this camera.
5. Click **Apply**.
6. Click **Apply** again to save your settings.

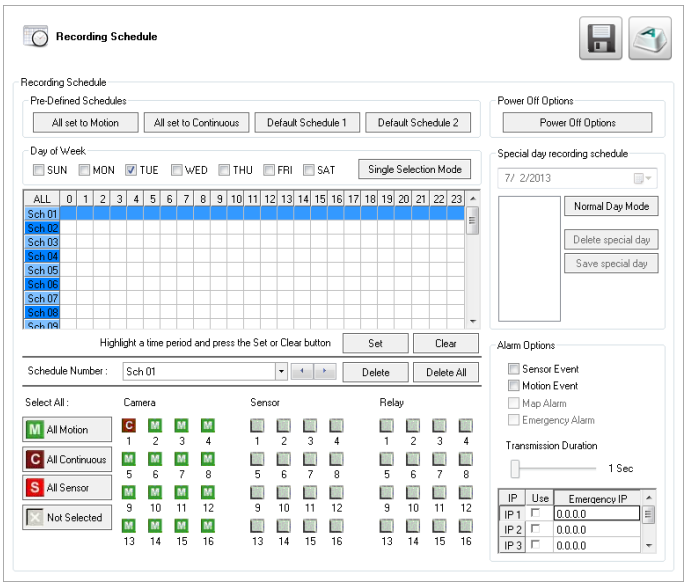
## Relays

1. Double-click **Relay Name** for each relay to assign a name.
2. Click Apply to save your settings.



# RECORDING SCHEDULE

The Recording Schedule window allows you to create different recording schedules based on the day, time, and type of recording desired. This window contains the System Restart options. To access the Recording Schedule window, click **Setup** in the Live screen, and then click **Recording Schedule**.




**Schedule Number –** You can create up to 32 separate schedules. Schedules can overlap while still operating independently, creating a very detailed recording schedule.

**Special Day Recording Schedule –** Customize a schedule for a specific day, such as a holiday or weekend.

**Alarm Options –** Specify alarm events that will trigger remote alarm monitor software.

**Power Off Options –** Use this function to specify time frames for turning off and restarting your recorder automatically.

## Default Schedules

These are pre-set schedules. Click **Default Schedule 1** or **Default Schedule 2** to choose either of the following settings. When you have decided, click Apply to save your settings.

**Note** Default Schedules are not configured for use with sensors or alarms.

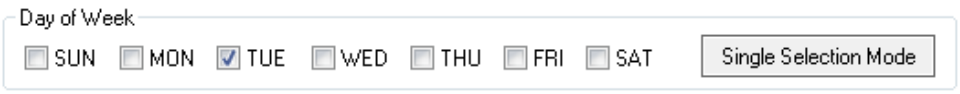
**Default Schedule 1**

- 8 am to 5 pm, Monday through Friday – All cameras set to continuous recording
- 5 pm to 8 am, Monday through Friday – All cameras set to motion recording
- 24 hours, Saturday and Sunday – All cameras set to motion recording

**Default Schdeule 2**

- All cameras set to motion recording 7 days a week, 24 hours per day.
- Camera 1 is associated with sensor input 1
- Camera 2 is associated with sensor input 2
- Camera 3 associated with sensor input 3

## Day of the Week




Click **Single Selection Mode** or **Multi Selection Mode** to switch between modes of scheduling by day of the week.

**Single Selection Mode –** Set your schedule one day at a time by selecting the appropriate day.

**Multi Selection Mode –** Set your schedule for multiple days at once by selecting all the days you want to configure.

## Creating a Recording Schedule (Example)

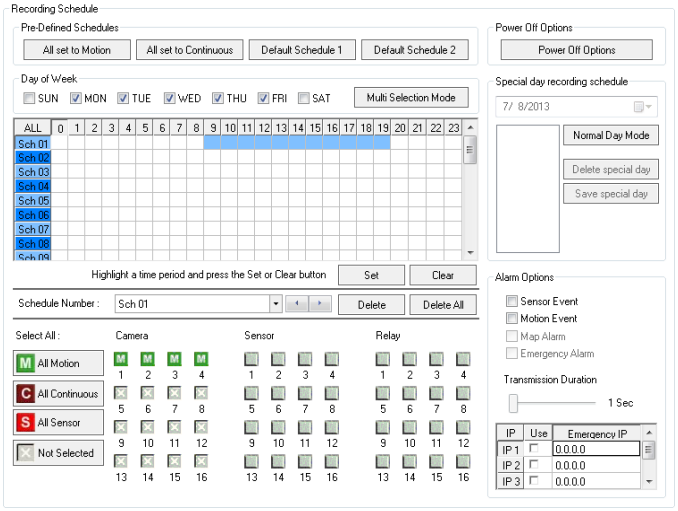
The following instructions will help you create a simple schedule for cameras 1 through 4. This is designed as a tool to help you understand how to create a schedule. When you understand the process of creating a schedule, create one to suit your specific needs.

**This example schedule will be configured as follows:**

- MON-FRI (9AM-5:59PM) all 4 cameras will record using MOTION recording.
- MON-FRI (6PM-8:95AM) all 4 cameras will record using CONTINUOUS recording.
- SAT-SUN (12AM-11:59PM) all 4 cameras will record using MOTION recording.

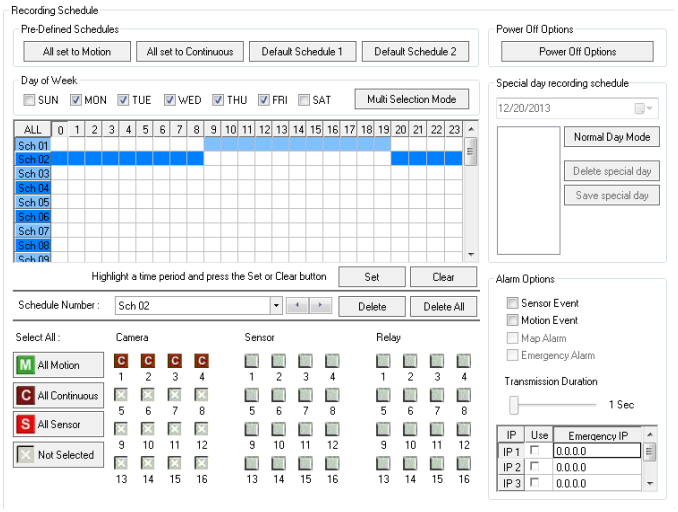
## ***Setting Daytime Motion Detection (Example)***

1. In the **Schedule Number** list, select **Sch01**.
2. Click **Single Selection Mode** to change to **Multi Selection Mode**.
3. Select **Mon**, **Tue**, **Wed**, **Thu**, and **Fri**.
4. On the **Sch01** row, click and drag your mouse to select the hours **9** – **7**, and then click **Set.**
5. Click **1** in the **Camera** section repeatedly, until a green **M** (motion) appears.
6. Repeat for **2** – **4** in the Camera section.
7. Click **Apply** to save.



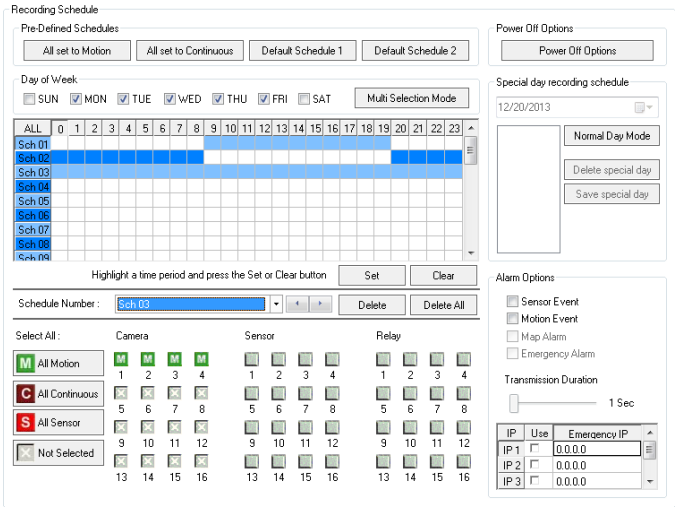
## Setting Nighttime Continuous Recording

1. In the **Schedule Number** list, select S**ch02**.
2. On the **Sch02** row, click and drag your mouse to select the hours **0 – 8**, and then click **Set**.
3. On the **Sch02** row, click and drag your mouse to select the hours **6 – 11**, and then click **Set**.
4. Click **1** in the Camera section repeatedly, until a red **C** (continuous) appears.
5. Repeat for **2 – 4** in the **Camera** section.
6. Click **Apply** to save.




## Setting Weekend Motion Recording

1. In the **Schedule Number** list, select **Sch03**.
2. Clear **Mon-Fri,** and then select **Sun** and **Sat**.
3. On the **Sch03** row, click and drag your mouse to select the entire row, and then click **Set**.
4. Click **1** in the **Camera** section repeatedly, until a green **M** (motion) appears.
5. Repeat for **2 – 4** in the **Camera** section.
6. Click **Apply** to save.



# Creating a Sensor Schedule (Example)

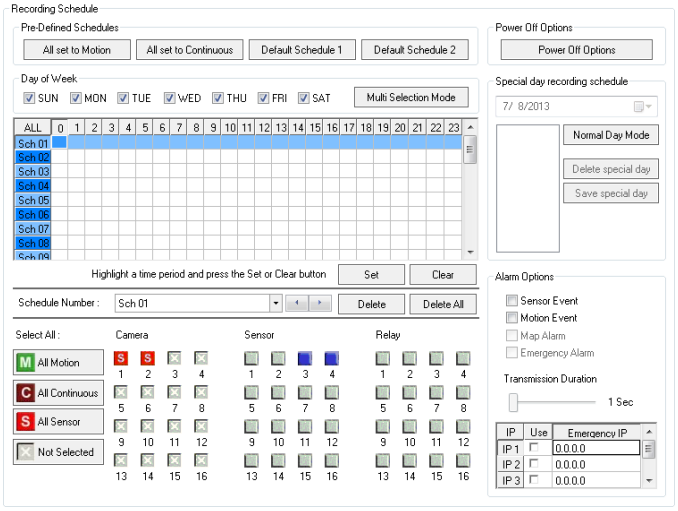
Sensor inputs can be programmed to instantly trigger recording on one or more camera channels when an alarm event occurs.

**Note** You must first associate the software sensors with the sensors. See the Hybrid Sensor Setup section of this manual for more detail.

**This schedule example will be configured as follows:**

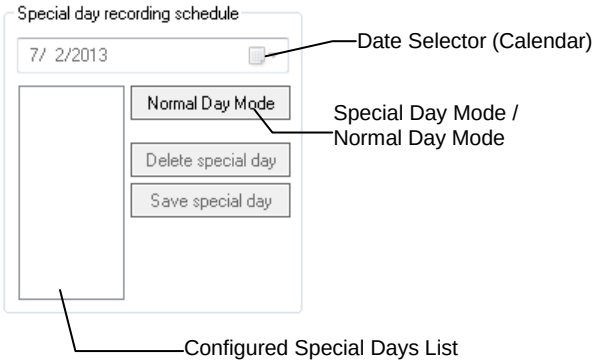
- SUN-SAT (12AM – 11:59 PM) cameras 1 and 2 will be activated by Sensor 3 and Sensor 4.

1. Select **Sch01** in the **Schedule Number** list.
2. Click the **Single Selection Mode** button to enable **Multi Selection Mode**.
3. Select **Sun, Mon, Tue, Wed, Thu, Fri,** and **Sat**.
4. In the **Sch01** row, click and drag your mouse to select the entire row.
5. Click **1** and **2** in the **Camera** section repeatedly until a red **S** (sensor) appears.
6. Click **3** and **4** in the **Sensor** section.
7. Click **Apply** to save.



## Special Day Schedule

You can create unique recording schedules for specific days such as holidays or special events.




### *Creating/Editing a 'Special Day' Schedule*

1. Click **Normal Day Mode** to enable the **Special Day Mode**.
2. Set a recording schedule as desired. For instructions, see the **Creating a Recording Schedule (Example)** and **Creating a Sensor Schedule (Example)** sections in this chapter.
3. Select a day by typing the date or clicking the down arrow to select the date from a calendar.
4. Click **Save Special Day**.
5. The special day will appear as a date in the Special Day Schedule. To edit this schedule, select it, and then and repeat steps 1 and 2.
6. Click save **Special Day**. When a confirmation message appears, click **OK**.
7. Click **Apply** to save your settings.

### *Deleting a 'Special Day' Schedule*

1. Select a date from the Special Days list.
2. Click **Delete Special Day**.

## Alarm Options

Use the Alarm Options section to configure the alarm output for specific events.

There are two Alarm Options:

- Sensor Event – Trigger an alarm output based on a sensor
- Motion Event – Trigger an alarm output based on motion detection

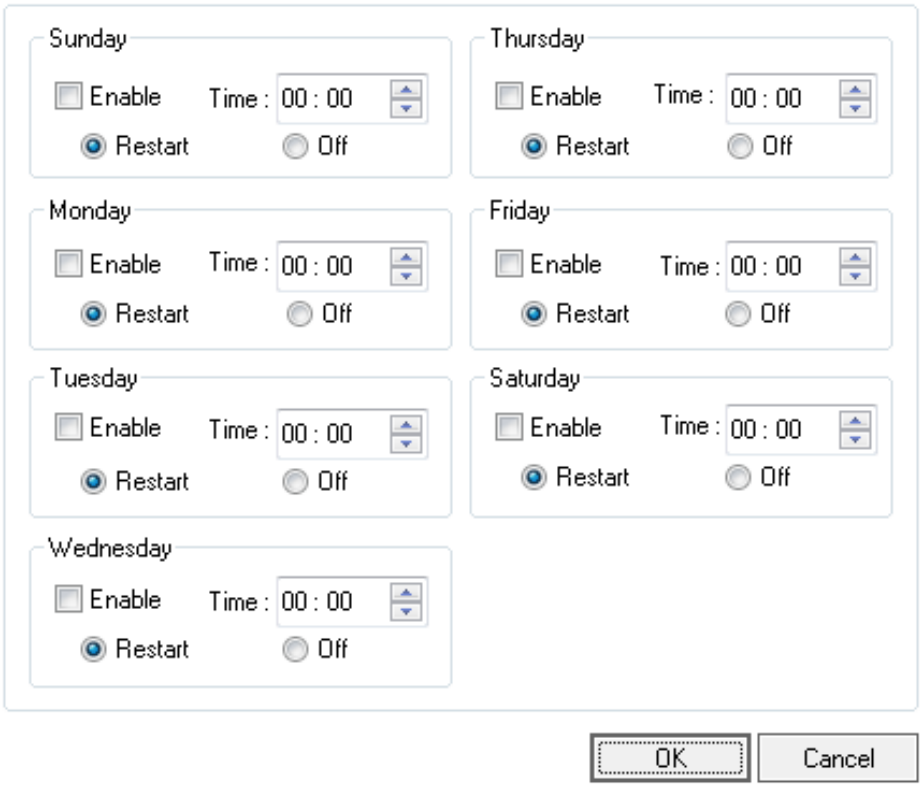
Motion can be designated as an alarm event. Often motion does not need to be treated as an Alarm event. For example, during work hours, motion that occurs is expected and should not be treated as an alarm. However, after business hours, any motion that occurs could be treated as an alarm.

1. In the Display screen, click **Setup**.
2. Click **Recording Schedule**.
3. In the Alarm Options section, select **Sensor Event**, **Motion Event**, or both.
4. Once you have selected an Event option, you can select alarm options.
   - **Map Alarm –** This enables the Alarm to activate the Map Alarm function on RADIUS monitoring software.
   - **Emergency Alarm –** Send video to a PC running Emergency Agent software.
5. Set the **Transmission Duration** (in seconds) for this alarm.
6. Enter up to five **Emergency IP** of PCs running Emergency Agent software.
7. Select the appropriate Emergency IP addresses. You can only use one IP address at a time.
8. Click **Apply** to save your settings.

**Tip** See the Emergency Agent chapter for detailed information on setting up the Emergency Agent software.

## Setting a Restart Schedule

The Power Off Options section allows you to define a schedule wherein the recorder automatically restarts according to specified parameters.




### *Create System Restart Schedule*

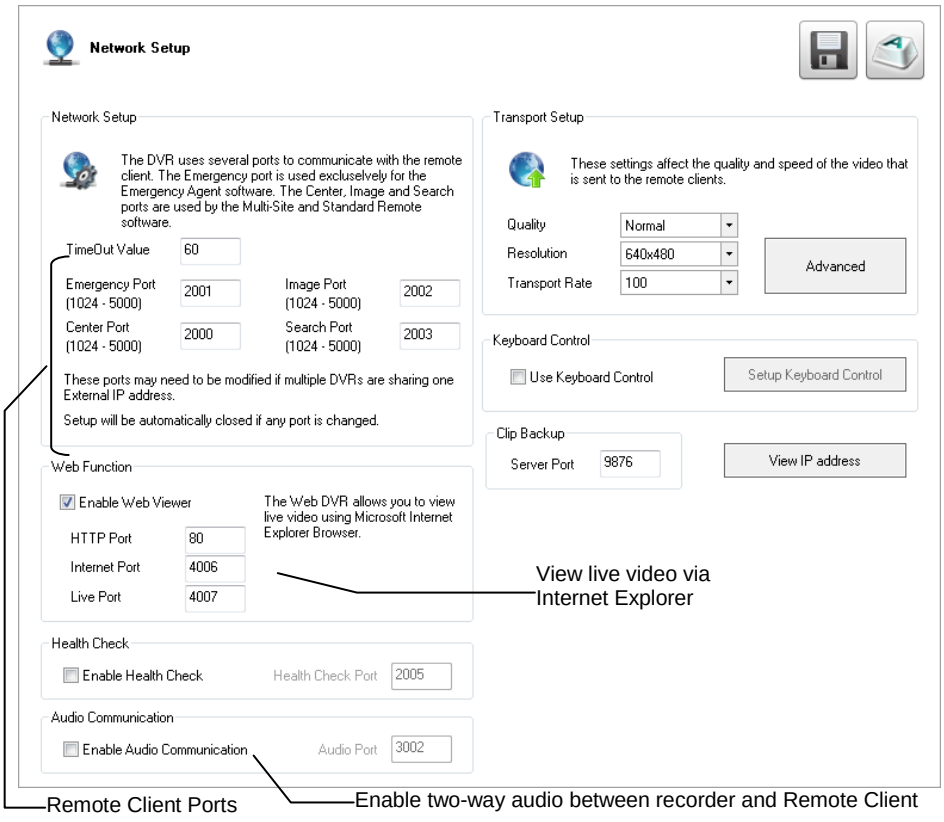
1. In the Display screen, click **Setup**.
2. Click **Recording Schedule**.
3. Click **Power Off Options**.
4. Select **Enable** for each day of the week that a restart is desired.
5. Specify the time of day to schedule the system restart.
6. Select either **Restart** or **Off**.

**Note** If **Off** is selected, the recorder will shut down at the specified time but not restart.

7. Click **OK**.
8. Click **Apply** to save your settings.

# NETWORK SETUP

Network Setup allows you to adjust network settings such as Ports, and enable Remote Access.


Network Setup
Network Setup
The DVR uses several ports to communicate with the remote client. The Emergency port is used excluselvely for the Emergency Agent software. The Center, Image and Search ports are used by the Multi-Site and Standard Remote software.
TimeOut Value 60
Emergency Port (1024 - 5000) 2001
Image Port (1024 - 5000) 2002
Center Port (1024 - 5000) 2000
Search Port (1024 - 5000) 2003
These ports may need to be modified if multiple DVRs are sharing one External IP address.
Setup will be automatically closed if any port is changed.
Transport Setup
These settings affect the quality and speed of the video that is sent to the remote clients.
Quality Normal
Resolution 640x480
Transport Rate 100
Advanced
Keyboard Control
Use Keyboard Control
Setup Keyboard Control
Clip Backup
Server Port 9876
View IP address
Web Function
Enable Web Viewer
The Web DVR allows you to view live video using Microsoft Internet Explorer Browser.
HTTP Port 80
Internet Port 4006
Live Port 4007
Health Check
Enable Health Check
Health Check Port 2005
Audio Communication
Enable Audio Communication
Audio Port 3002
View live video via Internet Explorer
Remote Client Ports
Enable two-way audio between recorder and Remote Client

**Time Out Value –** When attempting to connect to the recorder, if the connection does not succeed during the timeout period (seconds), the connection will be terminated (**default: 60**).

**Emergency Port –** Connect with the Alarm Monitor software (**default port: 2001**).

**Center Port –** Connect with the OpenEye remote software (Remote, Radius, MDVR). This port must be specified in the remote software to connect to the recorder (**default port: 2000**).

**Note** Center Port 1025 is not available.

**Image Port –** Transfers the video to the OpenEye remote software (**default port: 2002**).

**Search Port –** Transfers search information to the OpenEye remote software (**default port: 2003**).

**Note** If connecting to the recorder through a firewall, the above ports must be open to incoming and outgoing traffic.

**Health Check Port –** Enable RADIUS to receive information regarding the health of the recorder (**default port: 2005**).

**Audio Port –** Enable two-way audio (**default port: 3002**).

**Transport Setup –** Configure the quality and speed of the video sent to remote clients.

**Keyboard Control –** Enable the recorder to work with a Keyboard Joystick Controller for a PTZ camera.

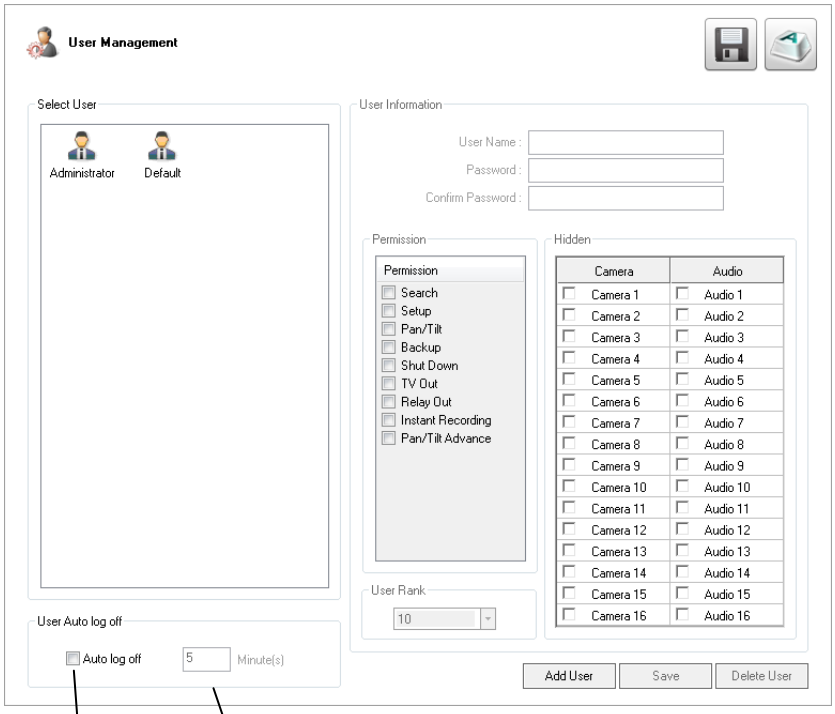
**Clip Backup –** Set the server port for clip backup (**default port: 9876**).

**View IP Address –** View the IP address of your recorder for use in remote access applications.

# USER MANAGEMENT

The User Management screen allows the administrator to create, edit, and delete user accounts. Each user account can be assigned different privileges to limit the usage of the recorder system. Users can be given administrator privileges by enabling all rights, however only the true administrator account can access the User Management screen.

**Note** The **Delete User** button immediately deletes the user – use cautiously.




## *Add a New User*

1. In the Display screen, click **Setup**.
2. Click **User Management**.
3. Click **Add User.**
4. Type a **User Name** and **Password**.
5. Type the password again in the **Confirm Password** field.
6. Enable appropriate **Permissions**.
7. Select **Camera** or **Audio** channels to hide those channels from the user.
8. Assign a **User Rank**.

**Note** See the User Rank section for more information.

9. Click **Save**.
10. Click **Apply** to save your settings.

## *User Rank*

The User Ranking structure allows the option to assign a privilege level to users who access the recorder remotely 1-10. (1 is the highest privilege level). For example: Since only one user is allowed to use the PTZ controls at any one time, a user with a rank of 1 will take precedence over a user with a rank of 2 if both are attempting to use PTZ controls.

The User Rank option affects:

**Setup Access** - The recorder software can only have one user accessing Setup at any given time. A user with a higher rank will kick another user out of the Setup menu.

**Note** Changes made by a lower ranked user may NOT save when a higher ranked user kicks the lower ranked user out of the Setup menu.

**PTZ Control** - The recorder software can only have one user using the PTZ controls at any given time. A user with a higher rank will kick another user out of the PTZ controls.

1. Log into your recorder as an Administrator.
2. In the Display screen, click **Setup**.
3. Click **User Management**.
4. Select a user from the **Select User** box,.
5. Set the user's rank using the **User Rank** list.
6. Click **Update User**.
7. Click **Apply** to save your settings.

# Changing the Administrator Password

1. Select **Administrator** in the Select User section.
2. Type a new **Password.**
3. Type the password again in the **Confirm Password** field.
4. Click **Update User**.
5. Click **Apply** to save your settings.

## *Default Administrator Password*

The default administrator login is:

**User:** admin

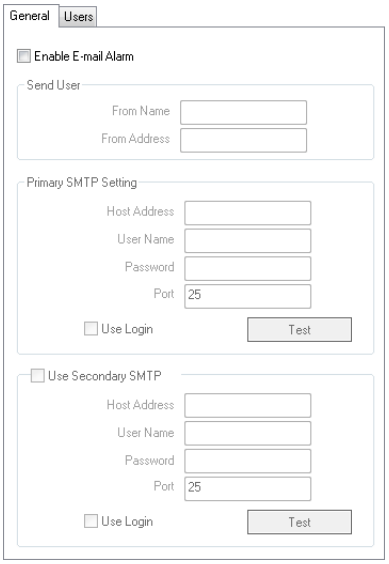
**Password:** 1234

# STORAGE MANAGEMENT

## Status Check / Email

Use the Status Check/Email tab in Storage Management to configure settings for status checks and email recipients when status checks require attention. This function can keep you apprised of events detected by your system without requiring you to check check the recorder each day.

### *General*

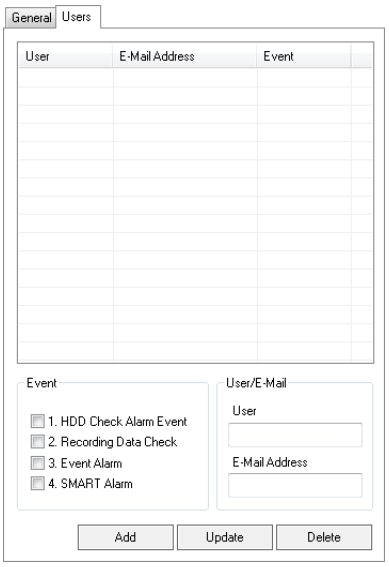



1. On the Display screen, click **Setup**.
2. Click **Storage Management**.
3. Click the **Status Check/Email** tab.
4. Click the **General** tab.
5. Select **Enable Email Alarm**.
6. Enter a **From Name** and email **Address**.

**Note** This name and address will appear in the **From** line of email alert messages.

7. Enter the SMTP information for the email account that will be used to send emails from the recorder. Contact your administrator for this information if necessary.
8. If using a secondary email account select **Use Secondary SMTP** and complete the SMTP information.
9. Click **Test** to send a test message to either address.
10. Click **Apply** to save your settings.

### *Users*

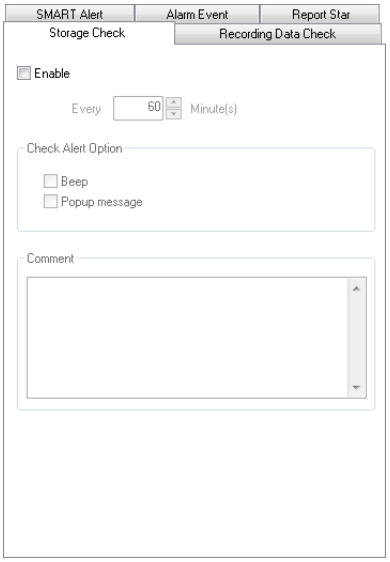



1. On the Display screen, click **Setup**.
2. Click **Storage Management**.
3. Click the **Status Check/Email** tab.
4. Click the **Users** tab.
5. Select the type of **Event** to send email on.
6. Enter the **User** and **E-mail Address** of a desired recipient.
7. Click **Add**.
8. Repeat for additional recipients and types of events.

**Note** A separate email notification for each type of event must be set up for a single recipient to receive notifications for each type of event.

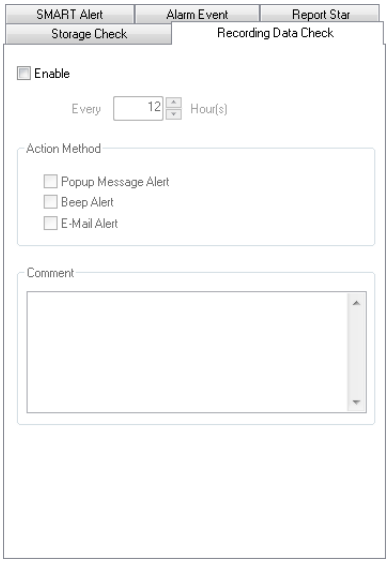
9. Click **Apply** to save your settings.

## *Storage Check*



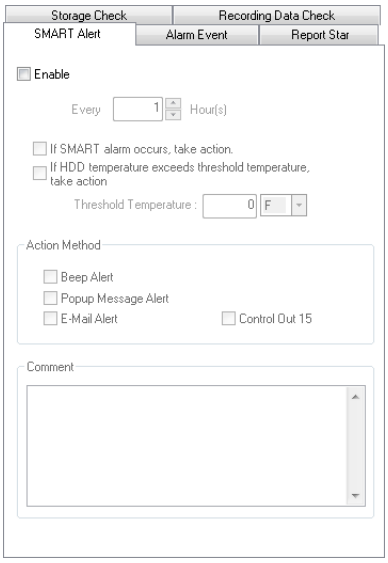

1. Set up the **General** and **Users** tabs first.
2. Click the **Storage Check** tab.
3. Select **Enable**.
4. Define the frequency of storage checks (in minutes).
5. Select an additional Alert Option if desired (**Beep** or **Popup Message**).
6. Add a **Comment** that will be seen in the email message if desired.
7. Click **Apply** to save your settings.

## *Recording Data Check*




1. Set up the **General** and **Users** tabs first.
2. Click the **Recording Data Check** tab.
3. Select **Enable**.
4. Define the frequency of data checks (in hours).
5. Select the **Action Method** (**Popup Message Alert**, **Beep Alert**, or **Email Alert**).
6. Add a **Comment** that will be seen in the email message if desired.
7. Cick **Apply** to save your settings.

## SMART Alert

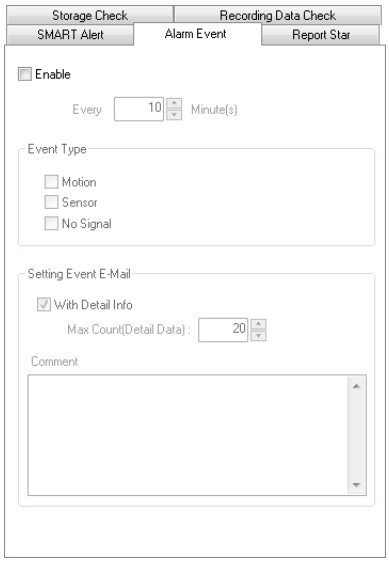



1. Set up the **General** and **Users** tabs first.
2. Click the **SMART Alert** tab.
3. Select **Enable**.
4. Define the frequency of SMART status checks (in hours).
5. Select the type of SMART event to trigger an action.
6. If selecting for temperature checks, define the maximum HDD temperature.

**Note** OpenEye recommends a temperature threshold of 150° F (65° C) if you choose to use this function.

7. Select an **Action Method** (**Beep Alert**, **Popup Message Alert**, or **Email Alert**).
8. Add a **Comment** that will be seen in the email message if desired.
9. Click **Apply** to save your settings.

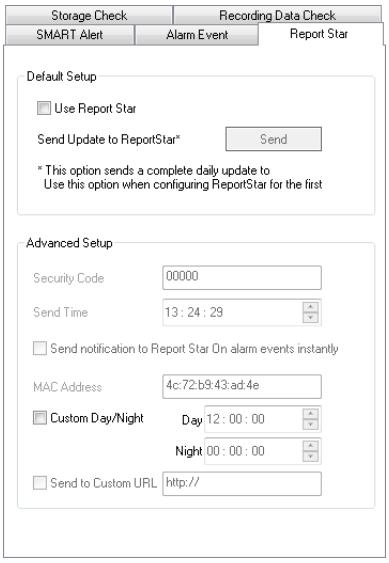
## Alarm Event




1. Set up the **General** and **Users** tabs first.
2. Click the **Alarm Event** tab.
3. Select **Enable**.
4. Define the frequency to send email alerts (in minutes).
5. Select the **Event Type**: **Motion**, **Sensor**, or **No Signal** (video loss).
6. Select **With Detail Info** to receive a still image attachment of the associated camera in the email message.
7. **Max Count** defines the number of message that will contain detailed data within the frequency time frame.
8. Add a **Comment** that will be seen in the email message if desired.
9. Click **Apply** to save your settings.

### *ReportStar*

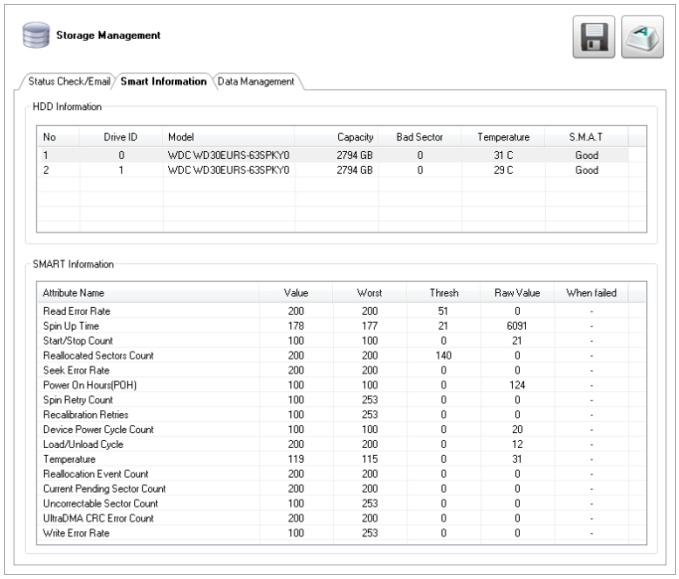
1. Set up the **General** and **Users** tabs first.
2. Click the **ReportStar** tab.
3. Select **Use ReportStar**.
4. Enter a numeric **Security Code** if desired (this is an additional security measure to prevent unauthorized users from adding the recorder to their Report Star account).
5. Define the **Send Time** to designate the time the recorder will send updates to Report Star.
6. Select **Send notification to Report Star on alarm events** if you want the recorder to report alarm events to Report Star.
7. Type a new **MAC Address** if necessary.
8. To set a custom time to send updates to ReportStar, select **Custom Day/Night**, and then select your desired **Day** and **Night** times.
9. To send updates to a custom URL, select **Send to Custom URL**, and then type in the URL.
10. Click **Apply** to save your settings.




**Note** The **Resize Images** check box will reduce the size of ReportStar images to conserve bandwidth when checked. To keep ReportStar images at their original resolution, leave the box unchecked.

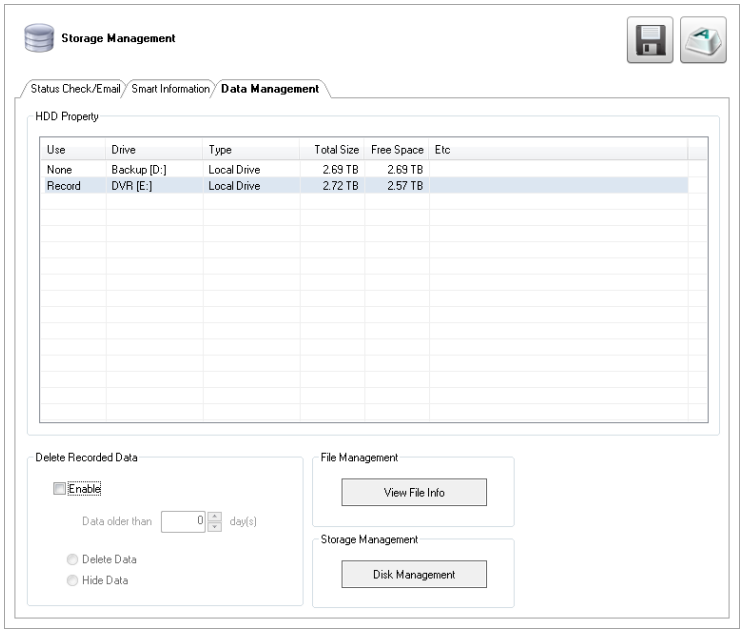
## SMART Information

The SMART Information tab displays Hard Drive information.



# Data Management

The Data Management tab displays the partition scheme and health status of the Hard Disk Drives in the recorder. Use this tab to troubleshoot a recorder, or verify the amount of Hard Drive storage installed. This function is native to the Windows operating system. For more information about Disk Management, consult a Windows 7 manual.




## *Delete Recorded Data*

1. To delete data, select **Enable**.
2. Select the timeframe of data to delete by selecting the appropriate number of **Days** you want to retain saved data.
3. Select **Delete Data** or **Hide Data**.
4. Click **Apply** to delete the data.

**Note** Deleting data is permanent. It cannot be retrieved.

## *File Management*

1. Click **View File** Info to view all file information.
2. To export file info, click **Export**, and then browse to your desired location.
3. Click **Save**.
4. Click **Close**.

## *Storage Management*

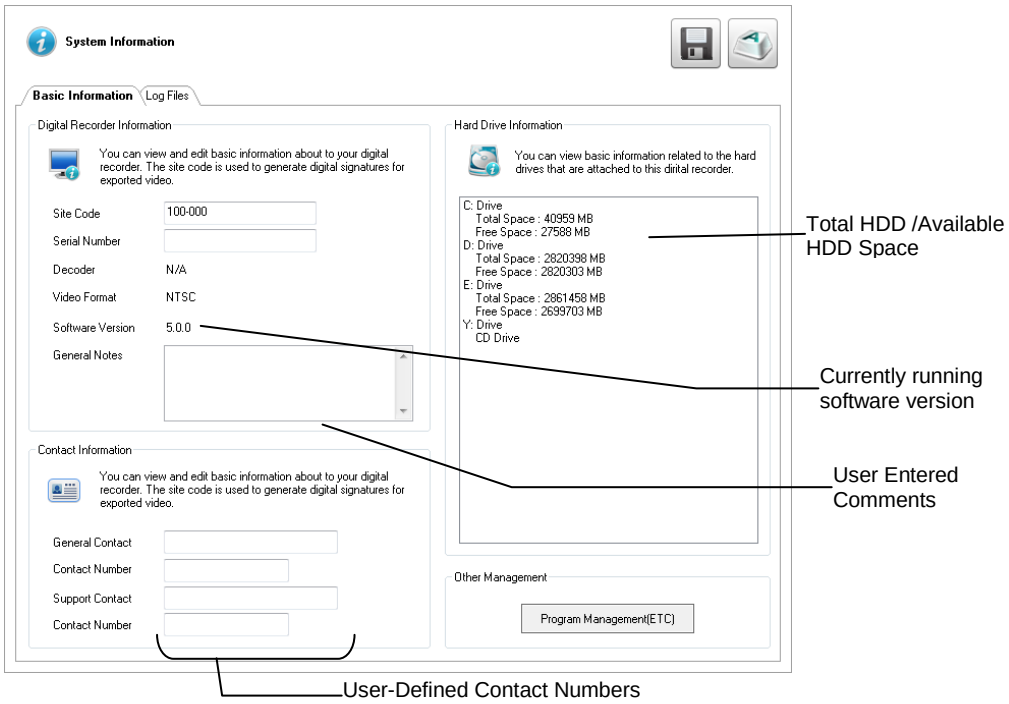
1. Click **Disk Management** to access the Disk Management function of the Windows operating system.
2. To view this window, close the **Setup** window, and then click **Exit**.
3. Select **Restart in Windows** mode, and then click **OK**.
4. For instructions regarding Windows Disk Management, please refer to a Windows 7 manual.

# System Information

The **Log Management** window provides you the options to overwrite log files or schedule log deletion.

## *Basic Information*

The Information display allows users to define the site code necessary for connecting to remote software, save comments relative to the recorder, store tech support and contact number information, and see the currently running server software version.


System Information
Basic Information
Log Files
Digital Recorder Information
You can view and edit basic information about to your digital recorder. The site code is used to generate digital signatures for exported video.
Site Code
100-000
Serial Number
Decoder
N/A
Video Format
NTSC
Software Version
5.0.0
General Notes
Contact Information
You can view and edit basic information about to your digital recorder. The site code is used to generate digital signatures for exported video.
General Contact
Contact Number
Support Contact
Contact Number
Hard Drive Information
You can view basic information related to the hard drives that are attached to this dirital recorder.
C: Drive
Total Space : 40959 MB
Free Space : 27588 MB
D: Drive
Total Space : 2820398 MB
Free Space : 2820303 MB
E: Drive
Total Space : 2861458 MB
Free Space : 2699703 MB
Y: Drive
CD Drive
Other Management
Program Management(ETC)
Total HDD /Available HDD Space
Currently running software version
User Entered Comments
User-Defined Contact Numbers

**Site Code –** A user-specified unique identification name used by other recorder software to identify the recorder. (Remote, Emergency Agent, RADIUS, Digital Signature Verifier)

**Contact Information –** Attach contact information as a digital signature to exported video.

**Other Management –** Click Program Management to access **External Program Management**.

# Program Management

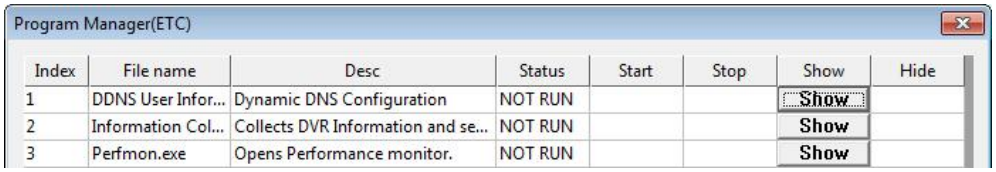
## Setting Up DDNS

Dynamic Domain Name System (DDNS) is a service that provides a static address to simplify remote connection to the recorder. This service is most useful for installations where the WAN (public) IP address is dynamic (changes from time to time). Most public IP addresses are dynamic unless a static address has been specifically ordered from the internet service provider.

### *Enable DDNS*

To enable this functionality of the recorder, follow the steps below:

1. Click **Setup** on the Display screen and log in as Administrator if prompted.
2. Click **System Information**.
3. Click **Program Management (ETC)** and enter the Administrator password when prompted.
4. Click **Show** (to the right of **Dynamic DNS Configuration**).




5. Select **Enable DDNS**.
6. Enter the **User Name**, **Password**, and **Hostname** specified on the DDNS document shipped with your recorder.
7. Click **OK**, then close the **Program Manager** window.

**Note** Ensure the recorder has an IP address by setting a static IP address. The Network settings may need to be changed. If you are not sure of the correct values, contact the individual or department responsible for network administration at the site.

### *Set the IP Address*

The IP address of the recorder is set in Windows; to set the IP address follow the steps below:

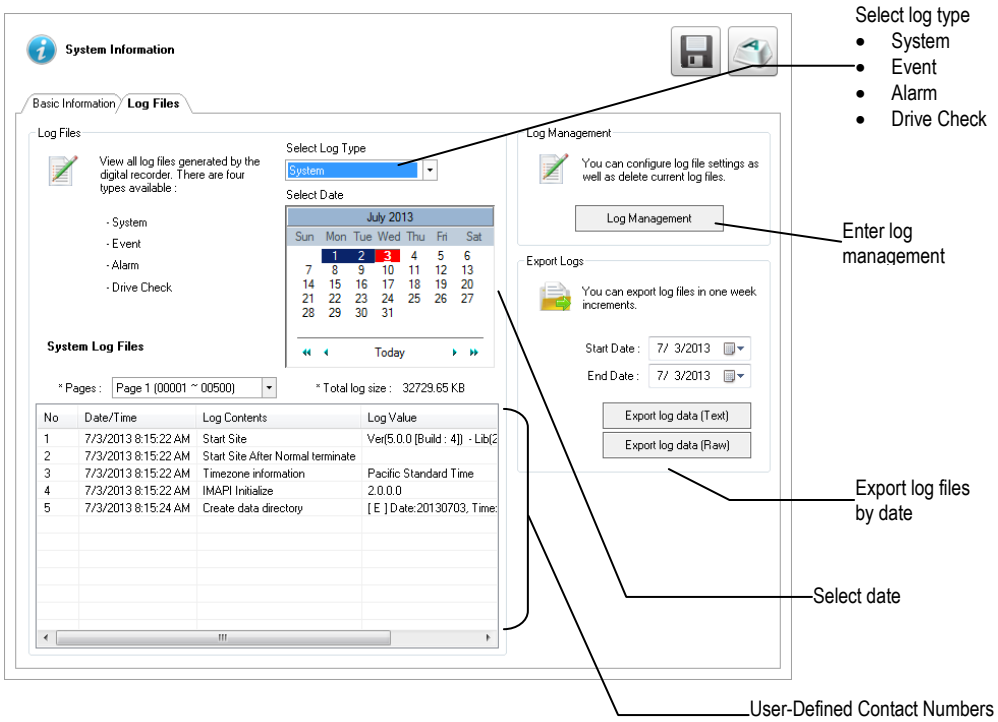
1. On the Display screen, click **Exit** and choose **Restart in Windows Mode**.
2. Right-click **Network** and then click **Properties.**
3. Click **Local Area Connection 2** and then click **Properties**.
4. Select **Internet Protocol Version 4**, and then click **Properties**.
5. Select **Use the following IP address**.
6. Enter values for the IP Address, Subnet Mask, and Default Gateway (these may be specified by the department responsible for network administration).
    a. **IP Address**: The first three sets of numbers should match the router's local IP address and the last set should be a unique number between 1-254.
    b. **Subnet Mask**: This should match the router's setting (commonly 255.255.255.0 for 192.X addresses and 255.0.0.0 for 10.X addresses).
    c. **Default Gateway**: This is the router's internal IP address. Once DDNS is configured, the router the recorder connects to will need to have port forwarding configured.

For further instruction on this process, visit **http://openeye.net** and search for "Port Forwarding."

Once DDNS and port forwarding have been configured, the recorder will be accessible from any remote site by entering the HOSTNAME into the address bar of Internet Explorer or the IP Address field in remote software.

# Log Files

Use the Log File tab to view logs for system, event, alarm, and drive check statuses by date. You can also export logs, and manage how the log files are stored.


System Information
Basic Information
Log Files
Log Files
View all log files generated by the digital recorder. There are four types available :
- System
- Event
- Alarm
- Drive Check
Select Log Type
System
Select Date
July 2013
Sun Mon Tue Wed Thu Fri Sat
Today
System Log Files
* Pages : Page 1 (00001 ~ 00500)
* Total log size : 32729.65 KB
No Date/Time Log Contents Log Value
1 7/3/2013 8:15:22 AM Start Site Ver(5.0.0 [Build : 4]) - Lib(2
2 7/3/2013 8:15:22 AM Start Site After Normal terminate
3 7/3/2013 8:15:22 AM Timezone information Pacific Standard Time
4 7/3/2013 8:15:22 AM IMAPI Initialize 2.0.0.0
5 7/3/2013 8:15:24 AM Create data directory [ E ] Date:20130703, Time:
Log Management
You can configure log file settings as well as delete current log files.
Log Management
Export Logs
You can export log files in one week increments.
Start Date : 7/ 3/2013
End Date : 7/ 3/2013
Export log data (Text)
Export log data (Raw)
Select log type
System
Event
Alarm
Drive Check
Enter log management
Export log files by date
Select date
User-Defined Contact Numbers

## *Viewing Log Files*

1. In the Live screen, click **Setup**, and then click **System Information.**
2. Click the **Log Files** tab.
3. Click **Select Log Type**, and then select the type of log you want to see (**System**, **Event**, **Alarm**, or **Drive Check**).
4. Use the **Calendar** to select the date you want to review.
5. Scroll through the **System Log Files** list to view your files.

## *Exporting Log Files*

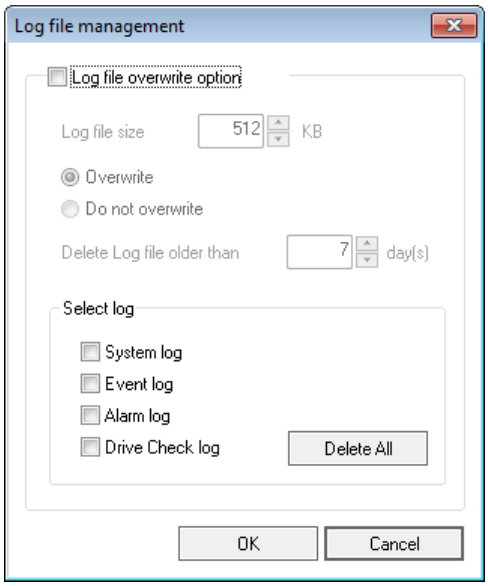
1. Select a **Start Date** and an **End Date**.
2. Click **Export Log Data (Text)**, or **Export Log Data (Raw)**, depending on your needs.
3. Browse to the location you want to save your files, and then click **OK**.

## *Set Up Log Management Options*

1. In the Display screen, click **Setup**.
2. Click **System Information**, and then click the **Log Files** tab.
3. Click **Log Magement**.
4. Select **Log File Overwrite Option** to enable.
5. Select **Overwrite** or **Do Not Overwrite**.
6. If Overwrite is selected:
    d. Enter a maximum **Log File Size**.
    e. Choose a number of days to keep logs (**Delete Log File Older Than**).

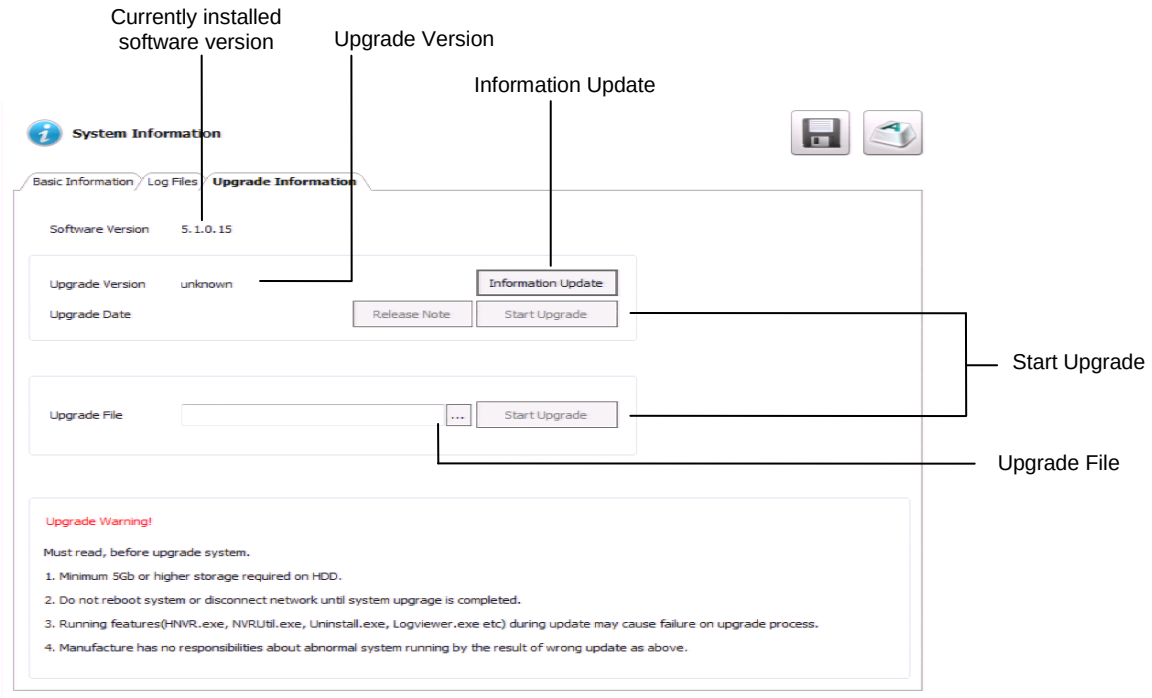
**Note** Log files can also be manually deleted. Simply select the log you want to delete on the bottom portion of the window, then click **Delete All**.

7. Click **OK** to save the settings and close the window.



## Upgrade Information

The Upgrade Information tab is used to remotely upgrade Server Software. The latest version of Server Software can be downloaded and installed in this tab, or installed from a file located on a connected USB device.




## *Remote Software Upgrade*

**Note** Server Software can be upgraded remotely from RADIUS.

1. In RADIUS, right-click on the recorder you wish to upgrade, and then click **Device Configuration.**
2. In the System Information menu, click the **Upgrade Information** tab.
3. If a new **Upgrade Version** is available, it will display.
4. Click the **Release Notes** button to view the release note for the upgrade.
5. Click the **Start Upgrade** button.

## *Local Software Upgrade*

1. In the System Information menu, click the **Upgrade Information** tab.
2. If a new **Upgrade Version** is available, it will display.
3. Click the **Release Notes** button to view the release note for the upgrade.
4. Click the **Start Upgrade** button.

## *Manual Software Upgrade*

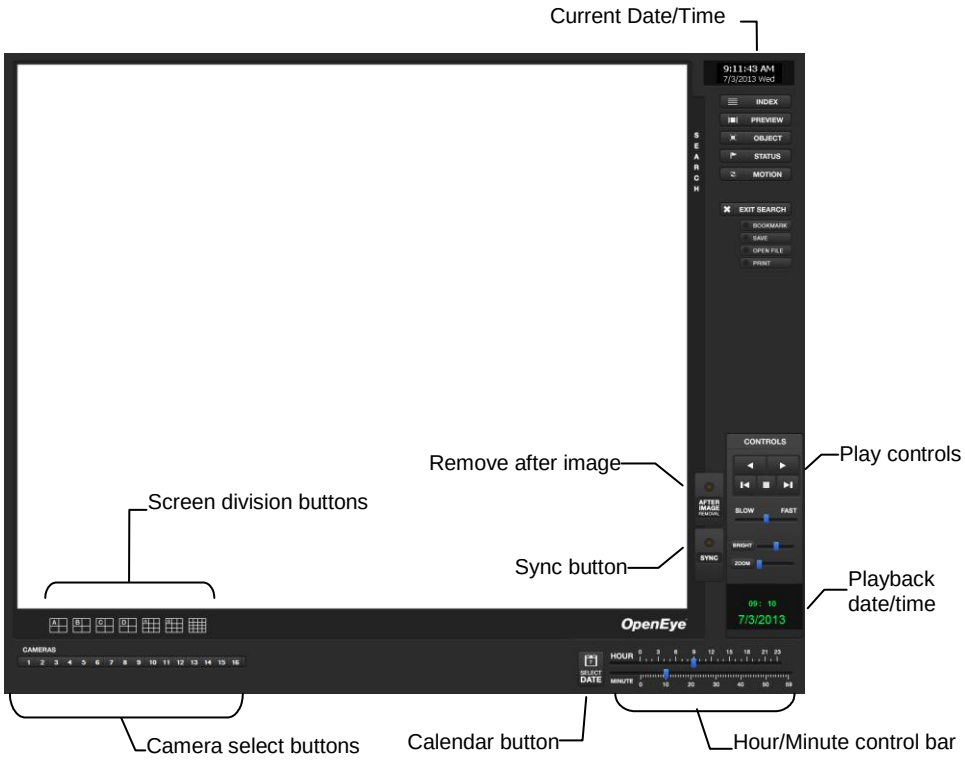
1. Connect a **USB** containing the upgrade ZIP file to the recorder.
2. In the Display screen, click **Setup.**
3. Click System Information, and then click **Update Camera Information.**
4. Click the **Upgrade File Browse** button.
5. Select the upgrade file on the connected **USB** and then click **OK.**
6. Once the file is seen in the **Upgrade File** location box, click **Start Upgrade.**

# SEARCH

## SEARCH OVERVIEW

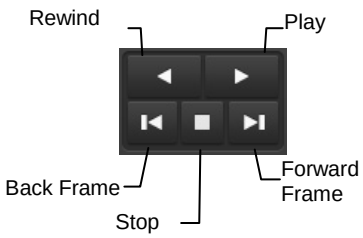
The recorder has several options that allow the user to easily find recorded video. From Motion/Sensor indexing to calendar views highlighting days with recorded video; the recorder is equipped to help you quickly find a specific video or event.

This chapter describes how to use the Search features.




**Note** Audio Channel buttons are only viewable when one camera is selected.

### Play Controls




| | |
|---|---|
| **Back Frame** | Moves video back one frame |
| **Rewind** | Rewinds video |
| **Stop** | Stops video playback |
| **Play** | Plays video |
| **Forward Frame** | Moves video forward one frame |

## Adjust the Brightness of an Image

Select an image to adjust by double-clicking on the desired image. Multiple images cannot be adjusted at one time.

1. Move the **Bright** slide bar to the right or left to adjust the brightness.
2. Reset the Brightness by moving the slider back to the center of the bar.

## Zooming in on an Image

1. Select an image to adjust by double-clicking on the desired image. Multiple images cannot be adjusted at one time.
2. Move the **Zoom** slide bar to the right or left to zoom in or out of an image.
3. Reset the Zoom by moving the slider back to its original position on the bar.

## Zooming in on a Portion of an Image

1. Right-click the area of interest on the image and select **Zoom**.
   - or – Double-right-click the image.
2. Repeat to zoom in further.
3. Continue clicking the right mouse button and the image zoom will cycle back to the original size.

## Open Video from a Saved Location

Previously saved video clips or backup files can be searched for content. Find file by date and time or by name.

1. Click **Open File** to search for the saved file.
2. Select a file from the list of saved clips and backup files or search by start hour.
3. Click **OK** to open the saved file.

## Sync

The Time Sync option synchronizes a single channel of video to playback in real time. Ordinarily the video may playback slower or faster depending on several factors, including how many IPS recorded and number of cameras playing at the same time.

1. Select a single image to synchronize by double-clicking on an image.
2. Click **Sync**. The video will now playback in real time.

## Clean Image

The recorder is capable of recording video using one of three different resolutions. When using the 720 x 480 resolution, two fields are mixed. Because of the timing gap between the two fields, according to the standardized image rules, after image might occur to high speed moving images. The OpenEye recorder allows the user to remove this by clicking **Clean Image**.

# INSTANT RECORDING

The Instant Recording feature allows users to manually initiate recording on a specific camera, overriding the current schedule. When Instant Recording is activated the recorder flags the clip as an event so Instant Recording instances can be found using the Index Search

Instant Recording can be used, for example, when a suspicious object or person is detected and you want to flag that section of video for easy retrieval at a later date.

## Activate Instant Recording

1. On the Display screen, right-click the camera on which to enable instant recording and choose **Instant Recording** (or double right-click). An INSTANT label will be placed on the upper right corner of the video.
2. To turn the Instant Recording option off, right-click the camera and choose **Instant Recording** (or double right-click)

## Searching 'Instant Recorded' Video

1. On the Display screen, click **Search**.
2. Click **Index**.
3. Select the **Instant Recording** option. See the Search chapter for more information.

# PERFORMING A BASIC SEARCH

There are several different types of searches that can be performed on the recorder. The most basic involves selecting the date, time, camera, and clicking play.

1. Click **Select Date**.
2. Select a date on the calendar.
3. Type your desired time, or select a time by clicking the up and down arrows to the right of the time display.
4. Click **OK**.
5. Select a Camera channel or Channel View.
6. Click **Play**. Video can be played forward, backward, or frame-by-frame.

# PRINTING AN IMAGE

1. Search video to locate a video frame you want to print.

**Note** Only one camera can be selected at a time for this function to work.

2. Click **Print**. A **Print Options** window will appear. Depending on your printer, there may be several printing options available. Refer to your printer manual for more information.
3. Select your desired **Zoom**, **Scale**, and layout options.
4. Select **View Title** to include camera and recorder information on the printed image.
5. Click **Print** to print the selected image.

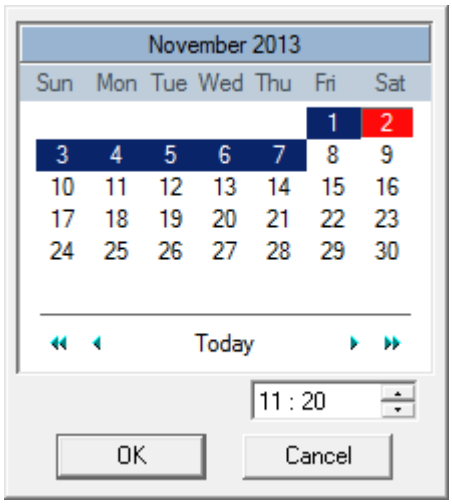
**Note** The message NO DEFAULT PRINTERS INSTALLED will display if no printer is installed.

# DAYLIGHT SAVING TIME

The recorder automatically adjusts for Daylight Saving Time changes. When the hour “jumps forward” no video is lost because an hour is skipped. However when the hour “falls back” there is a duplicated hour that under normal circumstances would be recorded over. The OpenEye recorder actually records both hours and allows the user to select which hour to play if the need arises.

To access the ‘lost hour’:

1. On the Search screen, click **Select Date**.
2. Select the date when Daylight Saving time ‘lost’ an hour. The **Daylight Saving** option appears.
3. To play back the ‘lost hour’, select **Daylight Saving**, select 02:00 (2AM) for the time.
4. Click **OK** to confirm the date and begin playing the video using standard search features.



# EXPORT IMAGE OR VIDEO FILES

Your recorder can export single images in multiple formats, and save video clips in an AVI format. JPG and AVI file formats are the most commonly used formats. Virtually every computer offers some support for these file formats.

To export image or video files, only one camera can be selected.

**Image** Images can be exported in **JPG**, **PNG**, or **BMP** formats. The **JPG** format creates a small file size, but can compromise image quality. The **PNG** format maintains higher image quality, creates a medium file size. The **BMP** format produces the highest image quality, but creates a large file size. Use any of these options to export a single image or frame.

**AVI** AVI image data can be stored uncompressed, but it is typically compressed using a Windows-supplied or third party compression and decompression module called a codec. AVI is used to export a video clip.

1. Locate your desired video or frame using the **Search** screen.

**Note** To save a JPG or AVI file, you can only search one camera channel at a time.

2. Click **Save**.
3. Select the appropriate **Export Type (Image File** or **AVI File)**.
4. If you are exporting an **Image File,** select the type of file you want to export (**JPG**, **PNG**, or **BMP**).

**Image File**

**a)** Select **Quality (50-100)**. When size is not an issue, set the quality to 100.

**b)** To export the file at its original resolution, select **Original Size**. Use this option only if file size is not an issue.

**AVI File**

**c)** Enter the **duration** (in seconds) to save. Although suggestions are provided, a selection between 1 and 3600 can be entered manually.

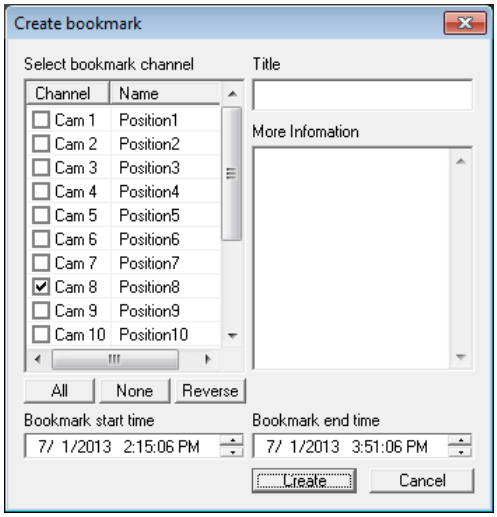
**d)** Select a **Compression Codec**. Each codec provides different levels of quality, compatibility and file-size.

**e)** Select **Quality – 50 – 100.** When file size is not an issue, set quality to 100.

5. The digital signature is already entered, but can be changed if required.
6. Click **Export.**
7. Select a location to save the file, enter a name for the file, and click **Save**.

# Bookmarks

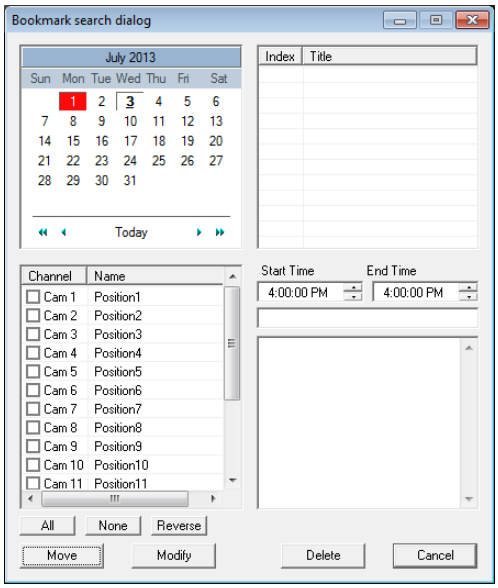
Use bookmarks to mark a video clip during a search. Export bookmarked data using the Clip Backup feature.




1. Locate your desired video using the **Search** screen.
2. Stop playback at the beginning of the desired clip.
3. Right-click the video and select **BookMark Start**.
4. Click the play button to continue playback.
5. Stop playback at the end of the desired clip.
6. Right-click the video at the desired end point and select **BookMark End**.
7. Type a name to identify the bookmark in the **Title** field.
8. Type a memo or notes in the **More Information** box.
9. You may also select additional channels to include video at different locations recorded at the same time.
10. Click **Create**.

## *Modify Bookmarks*

You can modify a previously created bookmark to change the start or end time of the clip, add additional comments, change the title, or add additional cameras.

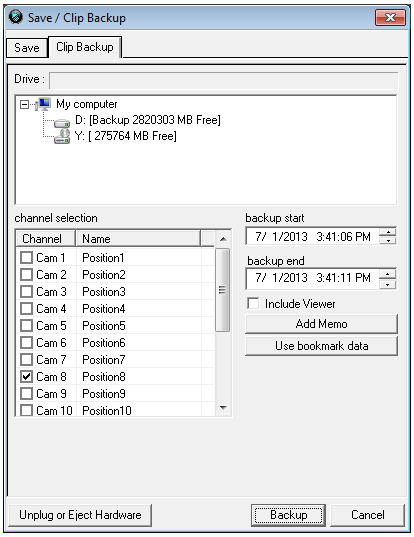



1. In the Search screen, click **Bookmark**.
2. On the calendar, select the date the desired bookmarks were created.
3. Select the desired bookmark from the list.
4. Makeyour desired change.
5. Click **Modify**.
6. Click **OK**, and then click **OK** again.
7. When the modification is complete, close the window.

## Clip Backup

Clip Backup can also be utilized to backup a single camera or multiple channels. The Clip Backup option gives you the ability to choose a backup time frame, choose a specific camera or cameras, add memos, and include the Backup Viewer if needed.

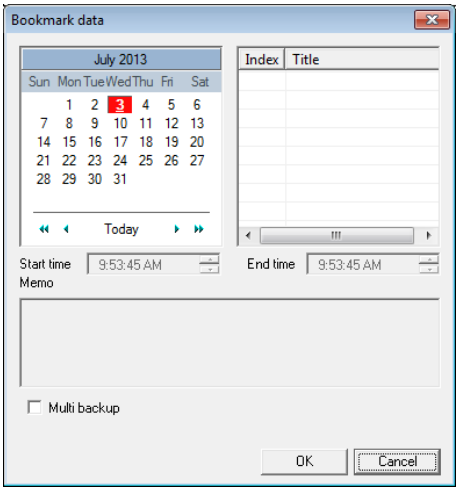
1. In the **Search** screen, click **Save.**
2. Click the **Clip Backup** tab.
3. Select the drive from the file tree to save data to (Hard disk drive, removable drive (USB), CD/DVD drive).
4. Select your desired cameras from the list.
5. Define the **Start** and **End** time and date for your backup.
6. Select **Include Viewer** to include a copy of the proprietary Backup Viewer Software to view the clip on virtually any Windows workstation.
7. Click **Add Memo** to include additional information.
8. Click **Backup** to start the backup.




**Note** If backing up to a removable USB device click the Unplug or Eject Hardware button after backup is complete to safely remove the device.

## *Single Clip Backup Using Bookmark Data*

1. In the **Search** screen, click **Save.**
2. Select the drive from the file tree to save data to. (Hard disk drive, removable drive, CD/DVD drive).
3. Click **Use Bookmark Data**.
4. On the calendar, select the date the desired bookmarks were created.
5. Select the desired bookmark from the list.




**Note** To include multiple bookmarks in a clip backup, select **Multi Backup** before selecting the desired bookmarks.

6. Click **OK**.
7. Select **Include Viewer** to include a copy of the proprietary Backup Viewer software to view the clip on virtually any Windows workstation.
8. Click **Backup** to start the backup.

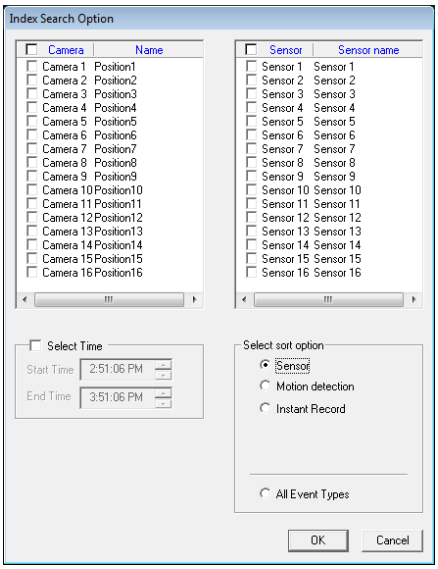
**Note** If backing up to a removable USB device click the Unplug or Eject Hardware button after backup is complete to safely remove the device.

# INDEX SEARCH

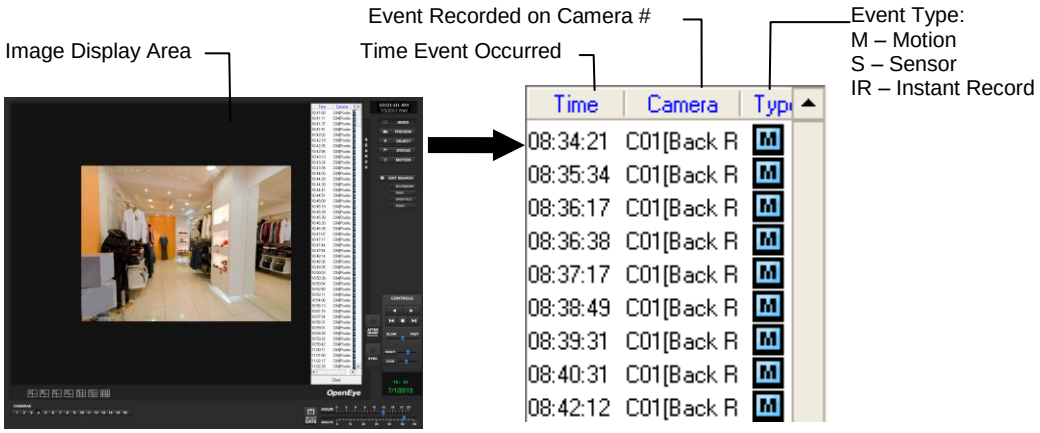
Using the Index Search can greatly decrease the amount of time spent searching through saved video. The Index Search allows you to perform a search based on criteria such as Sensor, Motion and Instant Record events.

## Performing an Index Search

1. In the Search screen, click **Select Date**.
2. Select a date and time, and then click **OK**.
3. Click **Index**.
4. Select the cameras and sensors to include in the search.
5. Select the **Select Time** check box to define a specific period.
6. Select an event type to search in the Select Sort Option section (**Sensor**, **Motion**, **Instant Record**), or select the **All Event Types** option.
7. Click **OK**. There may be a delay while results are returned. Results will be displayed in a column on the right side of the screen – Each line represents a segment of video. If no results are found, "NO IMAGE FOUND" will appear in the column.
8. Once the results are displayed, double-click any result to play the associated video.
9. Once your desired image is found, apply it to the Main Search by clicking **Close** at the bottom of the results column.




## Index Search Results Display



# PREVIEW SEARCH

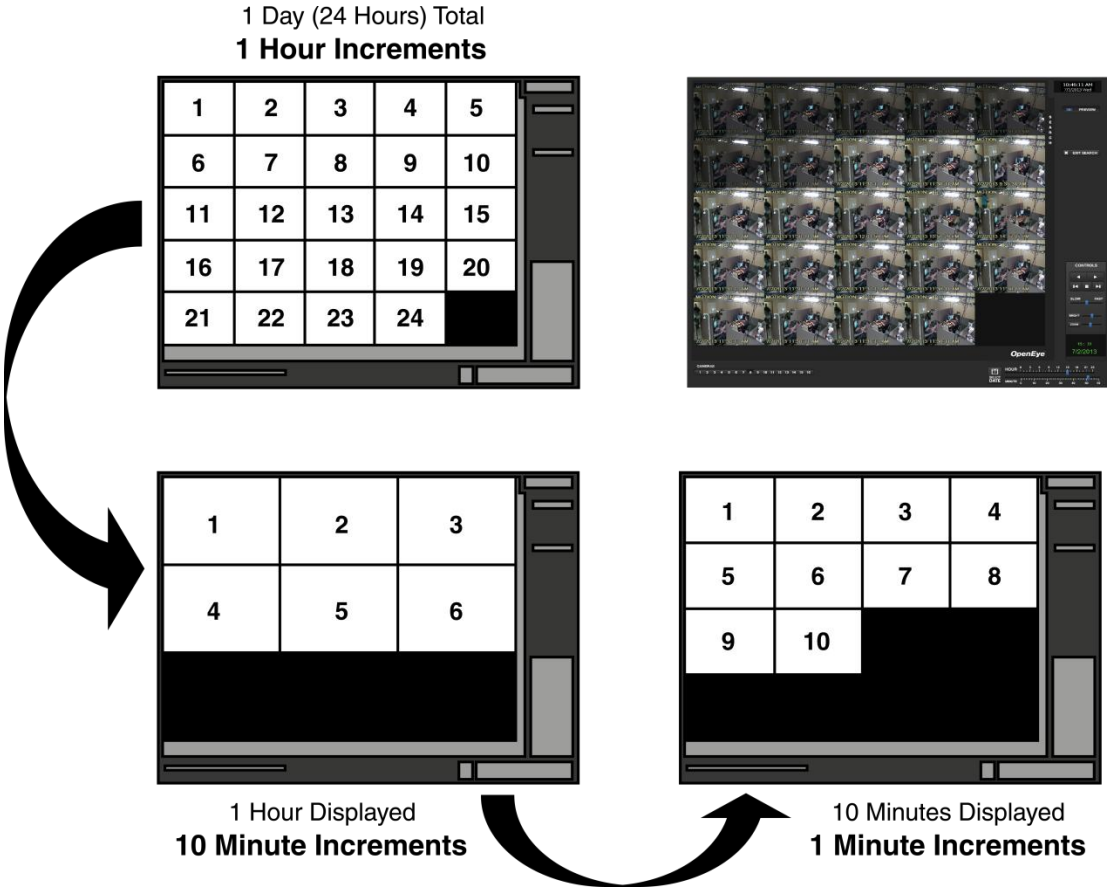
Preview Search can be used in a number of circumstances to quickly find an exact moment when an event, such as a theft, occurred. The Preview Search gives a 24 Hour visual overview of a single camera by separating a 24 hour period (1 day) into 24 images, one image for each hour of the day. The search can then be further narrowed down into ten minute increments and one minute increments by selecting one of the images displayed.

These example images show how the Preview Search functions.

The first screen that appears has 24 images displayed. Each image represents the first second of recorded video in each hour. If there is no image recorded during that period then nothing will be displayed.

When an hour is selected (by double clicking on the image), a new screen appears with 6 images. Each of these images represents the first second of video for a 10 minute segment of video within the selected hour.

Once a 10 minute segment is selected (by double-clicking on the image) the final screen appears which breaks down that 10 minute segment into 1 minute increments (10 images).

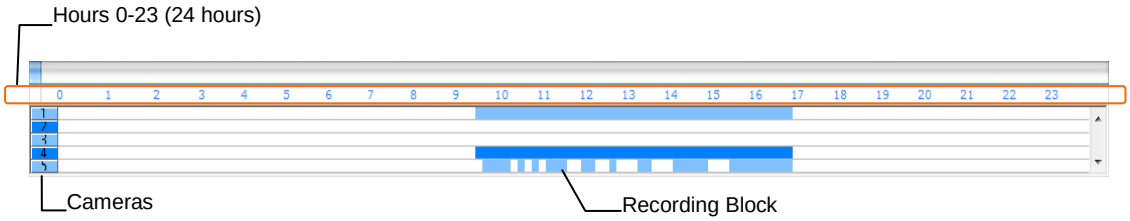


## Performing a Preview Search

1. Select a single camera channel.
2. Click **Select Date**, and then select the day you want to search.
3. Click **Preview**. 24 images will display. If there is no recorded video during a portion of the day, “No Image” will be displayed where the image would be.
4. Refine your search by double-clicking on an image to select it. 6 images will display. To return to the previous 24-image view, double-right-click any image.
5. Refine the search by double-clicking on an image to select it. 10 images display. If needed, return to the previous 6-image view by double-right-clicking on any image.
6. Double-click an image to select the 1-minute segment of video to play. A single image displays. If needed, return to the previous 10-image view by double-right-clicking on the image.
7. Use the Playback controls to play the video of the selected segment.
8. To exit Preview search with the current image still selected, click **Preview** again.

# STATUS SEARCH

The Status Search option displays video in graph format.




## Performing a Status Search

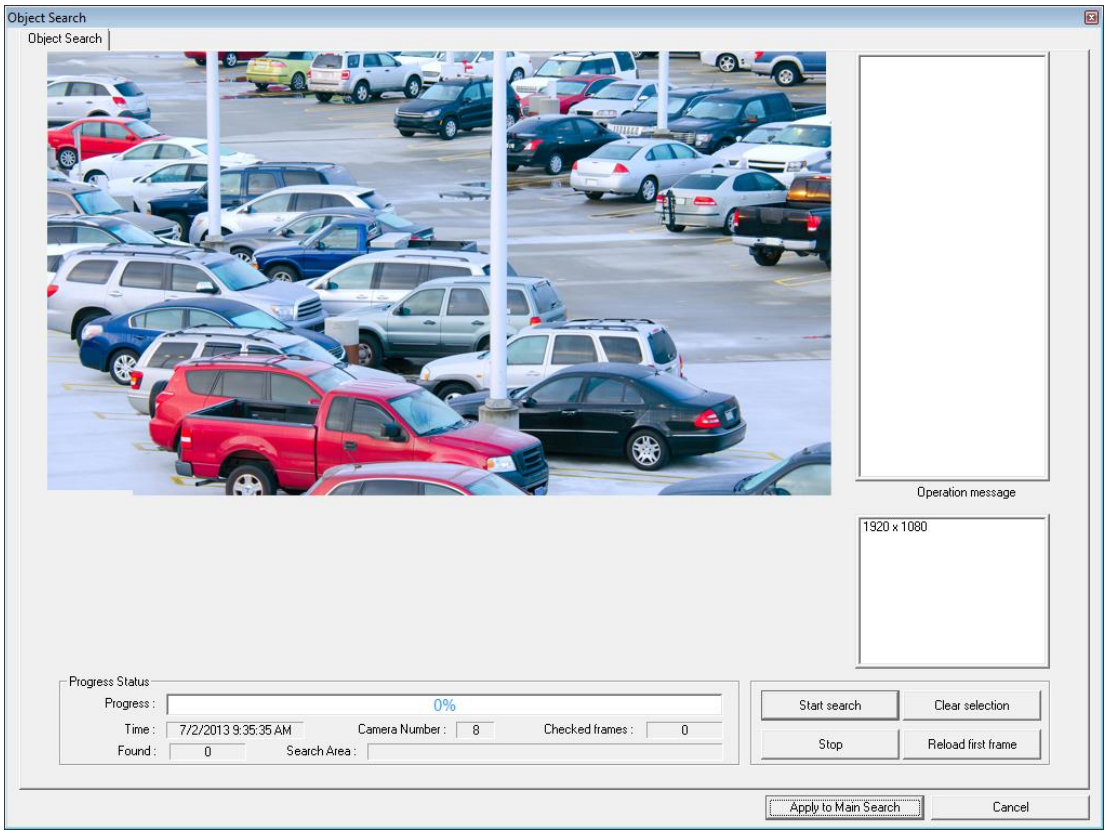
1. In the Search screen, click **Status**.
2. Click the calendar icon to select a day.
3. Click on an area of the blue recording block. Only one camera can be displayed at a time.

**Note** Each recording block represents a 10 minute time frame.

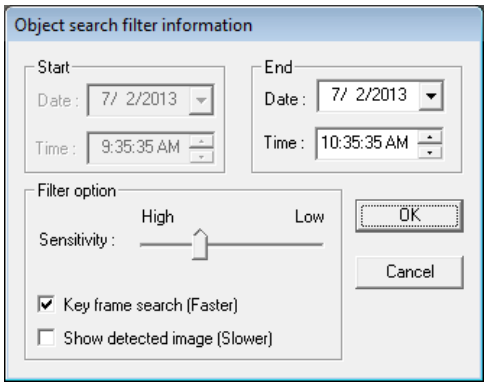
4. Recorded video from the corresponding camera and time block will display above. Use the Playback controls to view the recorded video.
5. Use the mouse or arrow buttons to scroll through recording blocks and select other video segments, if needed.
6. To exit **Status** search with the current image still selected, click **Status**.

# OBJECT SEARCH

Object Search is a powerful search utility that is used to search a region on the video for any motion changes. Results are neatly displayed and can be viewed quickly.




## Performing an Object Search




1. Select a single camera channel.
2. Click the calendar icon to select a date and time to start your search..
3. Click **Object**.
4. Click and drag the mouse on the video display to define a motion region area. To resize the area, drag the corners to define your desired size.
5. Click **Start Search**, the **Object Search Filter Information** window will open
6. Select an **End** date/time.
7. Adjust the sensitivity if necessary.
8. Click **OK**.
9. Select a motion event from the search results list displayed on the right.
10. To start a new object search using the original image, click **Reload First Frame**.
11. Click **Apply to Main Search** to display the selected image in the main **Search** screen and to use the playback controls.
12. To exit **Object** search without selecting an image, click **Cancel**.

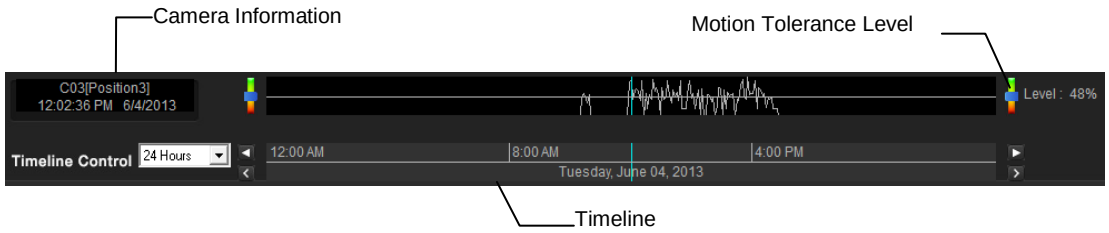
# MOTION SEARCH

The Motion Search provides a dynamic display of the levels of motion in recorded video. Adjust the level of motion to only play clips of video at or above that level.

To enable motion data to be saved for Motion search, ensure that you select the following settings:

1. On the Live screen, click **Setup**, and then click **Motion Detection**.
2. Select the camera you want to enable for motion detection in the Select Channel list.
3. Select **Detect Detail Motion Area**.
4. Repeat steps 2 and 3 for each of your desired cameras.
5. Click the **Etc**. tab, and then select **Enable Motion Detection on Continuous Recording**.

**Note** Motion Search is only available for newly recorded video; it is not compatible with video recorded prior to installing version 3.6.




## Performing a Motion Search

1. In the Live screen, click **Search**.
2. Select a single camera channel.
3. Click **Motion**.
4. Click the calendar icon to select a day.
5. Adjust the motion level line.
6. Adjust the timeline display settings.
7. Click the play button to start playback.
8. To exit **Motion** search with the current image still selected, click **Motion** again.

**Tip** You can drag the blue line on the Timeline or motion level box to adjust the time.

# AUDIO PLAYBACK

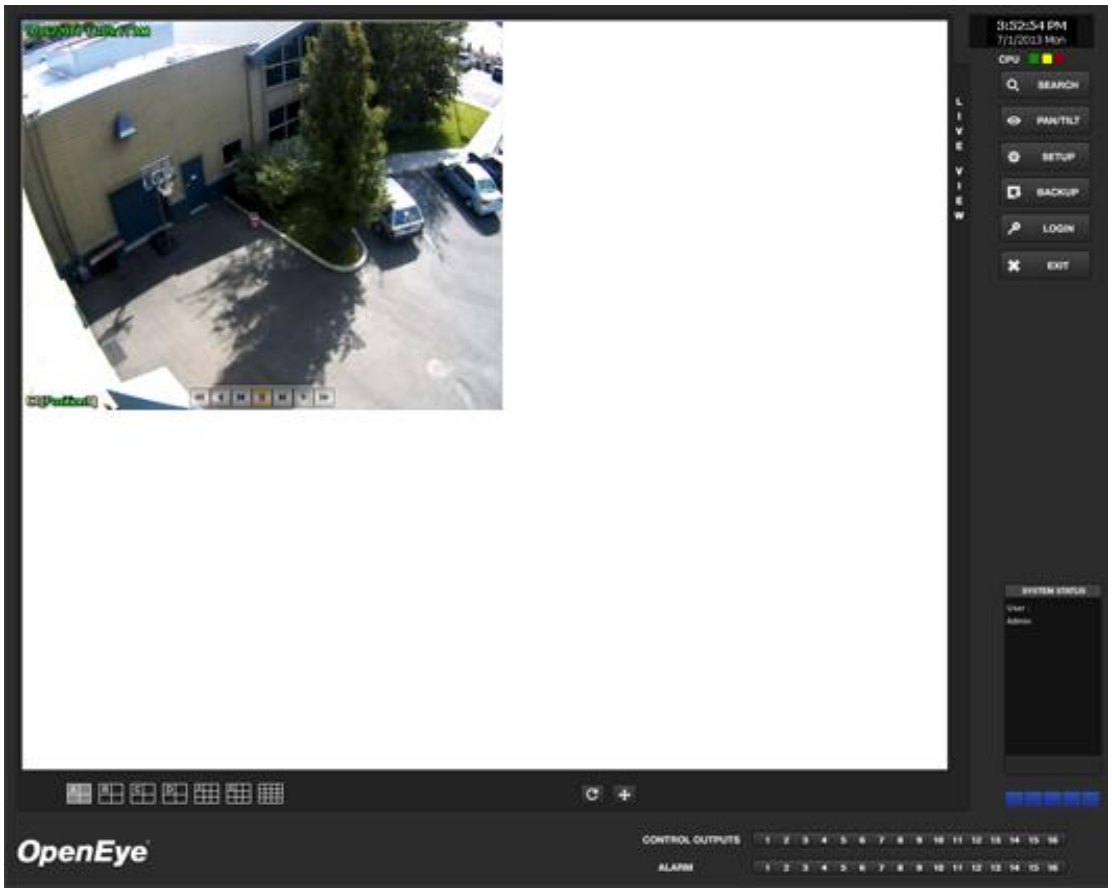
Audio is played back at 48,000Hz.

To play audio with the video:

1. Select a single camera channel. The audio channel options will be displayed in the lower right.
2. Select a single audio channel to play. When an audio channel is selected, **Sync** will be automatically selected.
3. Click **Play**.

# SEARCH IN LIVE

The Search in Live feature allows users to review events immediately while monitoring live video. Pause, rewind, and resume live video within seconds of an alarm event or suspicious activity.



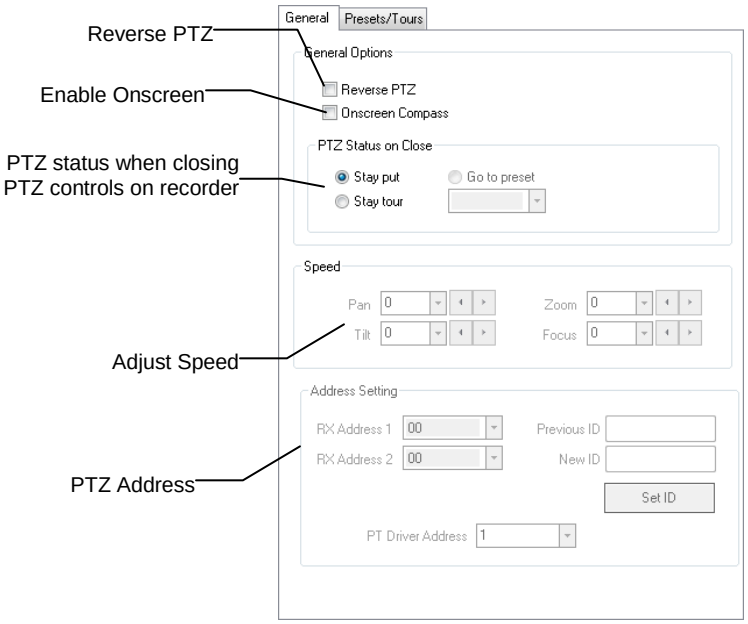

1. Right-click your desired camera channel, and then click **Search In Live** (or click the scroll wheel on the mouse).
2. The Search In Live controls will display at the bottom of the image.
3. Use the controls to pause, rewind, move frame-by-frame or resume playing as desired.

4. To exit Search in Live, click the scroll wheel on the mouse in the camera area you have been searching.

# ADVANCED PTZ SETUP

## General

The General tab in PTZ Setup allows you to reverse PTZ direction function if necessary, enable the use of Onscreen Compass for PTZ control, set the speed for your camera, and set the camera ID.




### *PTZ Address Settings*

- Some protocols support software address settings.
- The RX-Addresses and ID settings are compatible with a particular line of receivers that support 2 ID addresses.
- The PT Driver Address is associated with the PTZ ID address set on the camera. The addresses must match for the recorder to communicate with the proper PTZ camera. This is especially important when a large number of PTZ cameras are connected to the recorder.

**Note** To select a PT Driver Address of 129-256, manually enter the ID in the box.

## PTZ Presets/Tours

A Preset Position is a user-defined location where the camera can be pointed, zoomed-in, and focused. Preset positions can be defined and labeled if the camera supports this. Configure these functions using the Presets/Tours tab.

### *Creating a Preset*

1. In the Live view, click **Setup**, then click **PTZ Setup**.
2. Select the PTZ camera you want to configure in the **Select Channel** list.
3. Click the **Presets/Tours** tab.
4. Move the selected camera to your desired position.
5. In the **Preset** section, select a **Preset #** (1-10), and then click **Set**.

**Note** Preset positions can be created using the advanced buttons on the PTZ graphical controller.

### *Viewing a Preset*

1. Double-click on a PTZ camera channel on the Display screen.
2. Click **Pan/Tilt** to enable the Graphical PTZ Controller.
3. Click your desired **Preset** number on the controller.

# ACCESSING PTZ MENUS

Some protocols support the ability to access the Internal PTZ Onscreen menu.

Since every PTZ camera is different, the function of these options can vary slightly.

Your recorder provides an easy way to access the camera options. For explanations of what those options are, please refer to the user manual for the camera.

Note Use the arrow buttons on the PTZ controller to move through the PTZ menu options and/or highlight options.

# CONTROLLING A PTZ CAMERA

OpenEye recorders provide control for a PAN/TILT/ZOOM camera in two different ways.

- Use the Graphical PTZ Controller that appears when the PTZ button is clicked on the Display screen.
- Use the mouse to control the camera directly from the live video display (On-Screen Compass)

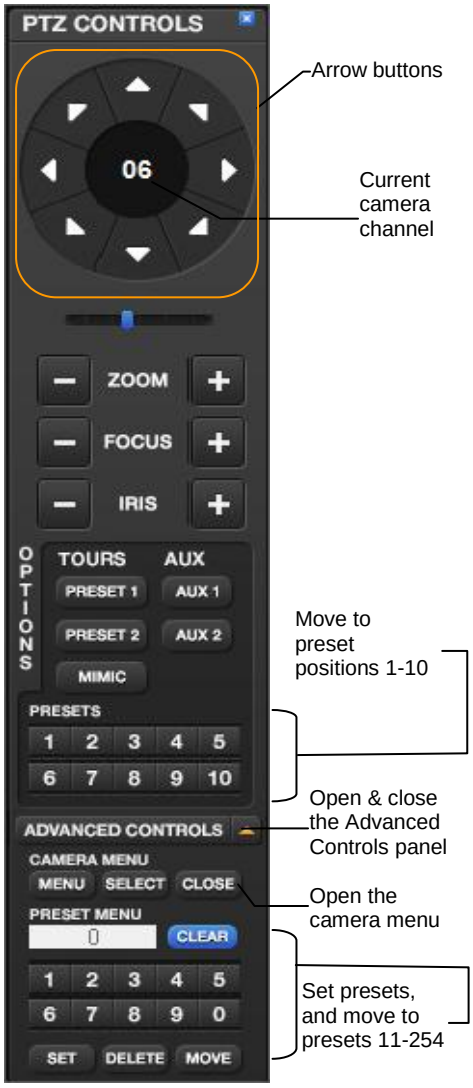
## Using the Graphical PTZ Controller

1. In the Display screen, click **Pan/Tilt**.
2. Click the viewing area of the PTZ camera you want to control.
3. Use the Arrow buttons to control the direction of the PTZ camera.
4. To select a new camera, click the video display of a different camera on the Display screen display.

**Note** Eight directions are available only for select cameras. Only four of the PTZ Control buttons work for all protocols (UP, DOWN, LEFT, RIGHT).

**Note** The Advanced menu panel on the graphical PTZ controller can be used to set PTZ preset positions (on supported cameras), as well as move to presets up to 254.

5. To exit the Graphical PTZ Controller, click **Pan/Tilt** again.

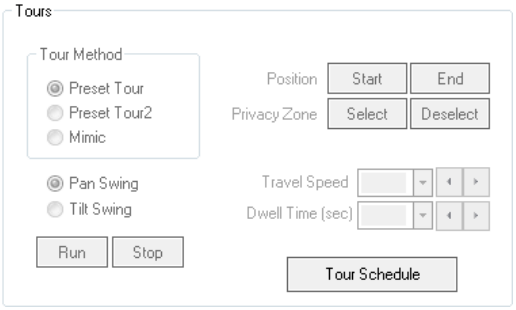



## Using the On-Screen Compass

1. On the Live screen, click **Setup**.
2. Click **PTZ Setup**.
3. Select the **Camera Channel** of the PTZ camera you want to enable Onscreen Compass control for.
4. In the General tab, select **Onscreen Compass**.
5. Click **Apply**.
6. Close the Setup window to return to the Live screen.
7. Click **Pan Tilt**.
8. Control the PTZ camera by clicking and dragging the mouse on the screen in the desired direction.

**Note** A green line will appear to show the direction in which the PTZ camera will move. The shorter the line, the less the PTZ will move. The longer the line, the more the PTZ will travel in the specified direction.

## Understanding Tours




**Tour Method** – Select a **Tour** to program.

**Setting: Start Pos / End Pos** – Define a Mimic Tour. The Start Position button begins the recording process. The Stop Position ends it.

**Privacy Zone** – Define an area that the camera will not view to create a Privacy Zone.

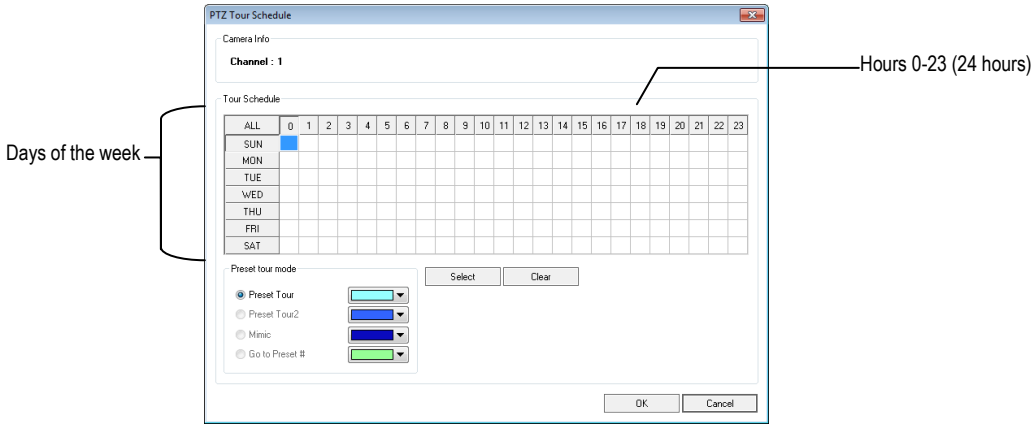
**Pan Swing / Tilt Swing** – This option enables the Horizontal (Pan) or Vertical (Tilt) Guard Tours.

**Travel Speed** – The speed between one Preset Position to the next

**Dwell Time** – The length of time (in seconds) that a PTZ Tour displays a Preset Position

**Run / Stop** – Runs the selected Pan or Tilt tour

## PTZ Tour Schedule




1. In the Live screen, click **Setup**, and then click **PTZ Setup**.
2. Select the PTZ camera you want to configure from the **Select Channel** list.
3. Click **Tour Schedule** to open the **PTZ Tour Schedule** window.
4. Click and drag the pointer to select blocks of time (hours 0-24) on the desired days of the week.
5. Click **Select**.
6. When finished, click **OK** to save changes and close the window.

# BACKING UP VIDEO DATA

## BACKUP OVERVIEW

The Backup Center allows you to back up recorded video data from multiple dates and times to one or more locations including the DVD-RW drive, Network Storage Locations, and External Hard Drives.

The recorder can easily back up important video data to an internal or external media location. The most commonly used media are CD-Rs, DVD-Rs, External USB or FireWire Hard Drives, and Network Drives. Every recorder comes equipped with a DVD-RW drive, USB port, and Network Adapter.

The recorder is capable of performing a backup to multiple CD/DVDs when the file sizes exceed the capacity of a single disk. You may also specify multiple locations for backup, as well as the order.

The recorder backs up video data using a proprietary compression format that can only be read by the OpenEye Backup Viewer software. This ensures the integrity of the data.

Throughout the backup process, the recorder will continue recording data without interruption. This is the result of the tremendous multiplexing power of the recorder, which allows it to perform virtually all functions without disrupting the recording process.

### Nero® Express

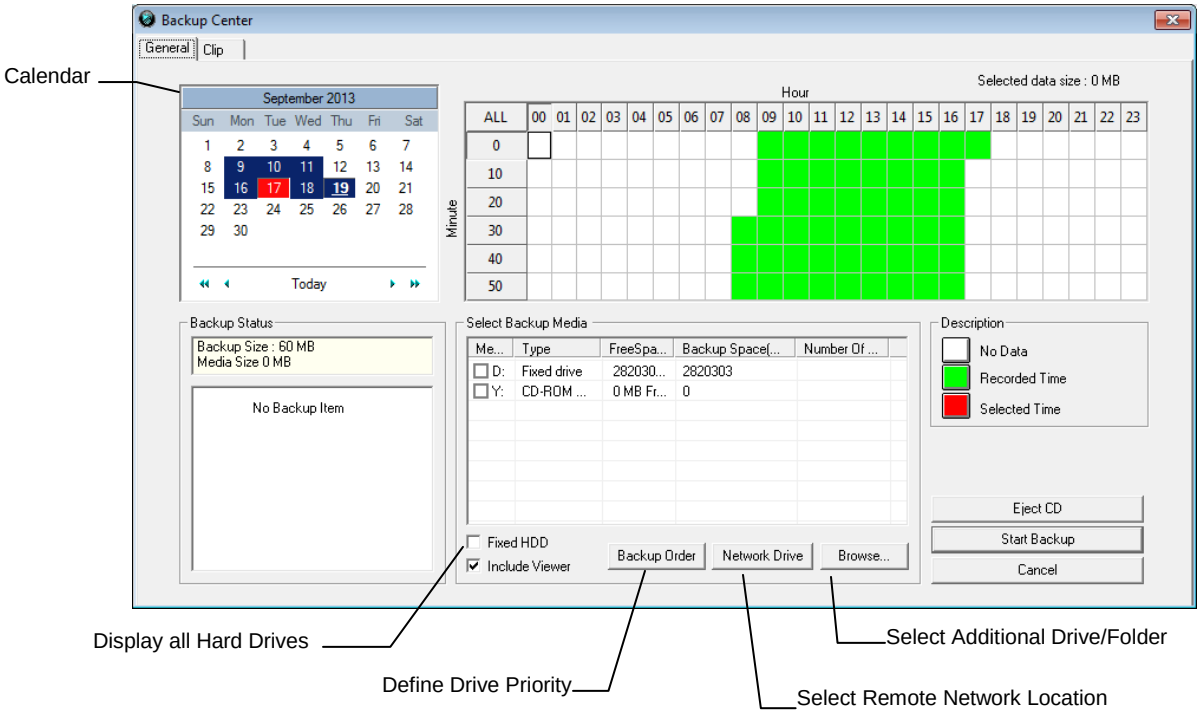
The recorder uses Windows® 7® Embedded running Nero® Express 9.0 to write data to the DVD-RW Drive. This solution allows the recorder software to read and write data to the DVD-RW Drive without formatting the disk first.

**Caution**

Although many features are available within Nero, it is highly recommended that you do NOT use any features other than those necessary for the standard backup of video data as outlined in this section, loss of information or software instability may result.

## General Backup Overview

The General Backup screen is used for performing bulk backup of video recorded by all cameras for a selected period, or periods, to a specified storage location.




**Hour / Minutes**

Recording data displays in hourly (24 vertical columns) and 10-minute (6 horizontal rows) segments. Green cells indicate time with recorded video. Red cells indicate time selected for backup.

**Backup Status**

Displays the size of all video currently selected for backup, the available size of the media currently selected for backup to, and the dates and times of video currently selected for backup.

**Fixed HDD**

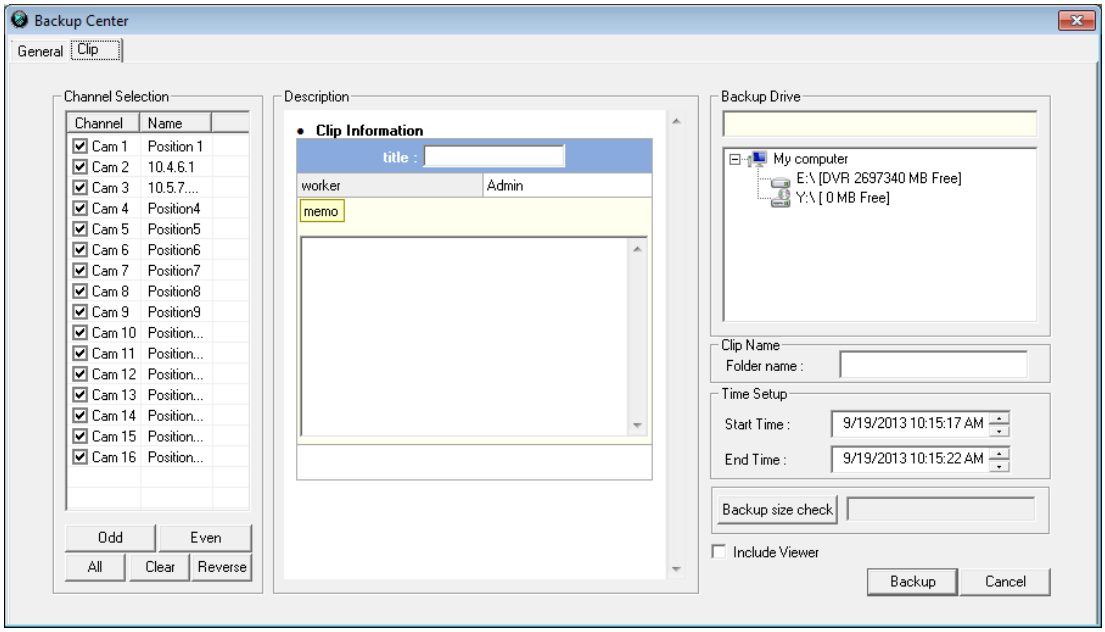
Display all Hard Drives

## *Performing a General Backup*

1. In the Display screen, click **Backup**.
2. Select a date to back up using the calendar. Dates highlighted in blue contain recorded data.
3. Select the blocks of time to back up using the Hour/Minute grid. Blocks of time with recorded video are highlighted in green. Blocks of time selected for backup are highlighted in red.
4. To select video from another date, click your desired date in the calendar and repeat step 3.
5. Select the backup drive or drives in the **Select Backup Media** section, or click **Network Drive**, or **Browse**. When selecting the CD-ROM drive you must specify the number of CDs to use for backup.
6. Click **Backup Order** to set the backup order.
7. Select the **Include Viewer** check box to include the Backup Viewer Application.
8. Click **Start Backup** to begin the backup process.

## Clip Backup Overview

The Clip Screen is used for backing up video recorded by individual cameras for a selected period of time to a specified storage location




## *Performing a Clip Backup*

1. On the Display screen, click **Backup**.
2. Click the **Clip** tab.
3. Set the **Start Time** and **End Time** under Time Setup.
4. Select the cameras to back up in the **Channel Selection** box.
5. Select the **Backup Drive** to save the backup video to.
6. Type the **Folder Name** for the clip files under **Clip Name**.
7. Select **Include Viewer** to include the Backup Viewer software.
8. Enter pertinent clip information into the **Clip Information** section in the Description box.
9. Click **Backup Size Check** to confirm the file size of the clip backup.
10. Click **Backup** to begin the backup process. A progress bar will be displayed in the lower right corner of the Display screen.

## Scheduled Backup Overview

The Scheduled Backup Screen is used for performing bulk backup of video recorded by all cameras on a regular scheduled basis (1-24 hours). The Scheduled Backup Screen is similar to the General Backup Screen.

## *Activating Scheduled Backup*

In order to use the Scheduled Backup feature, you must first activate the function for your Server software. You only need to do this once to enable scheduled backups.

1. On the Live screen, click **Exit**, and then select **Restart in Windows Mode**.
2. Click **OK**.
3. Click **Start**, and then click **vFormat**.
4. In the **Need for Scheduled Backup** area, click **Confirm Windows System Password**.
5. Type your Windows System **ID** and **Password**.

**Note** The default **ID** is DVR Admin, and the default **Password** is dvr4321.

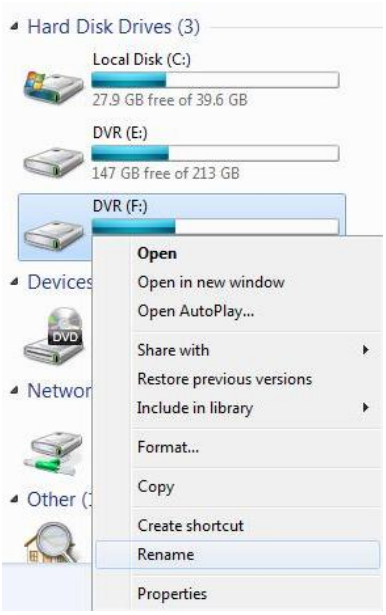
6. Click **OK**.
7. Close the DVR Utility window, and then double-click **OpenEye Server** to restart your Server software.

## *Specifying Scheduled Backup Drives*

In order to use the Scheduled Backup feature one or more storage drives or partitions connected to the recorder must be specified as a backup drive.

1. On the Live screen, click **Exit** and choose **Restart in Windows Mode**.
2. Double-click **Computer**.
3. Right-click on the drive to specify as a backup drive for Scheduled Backup and click **Rename**. Rename the drive to 'Backup'. Repeat this process for all drives to use for Scheduled Backup. To remove a drive from use for Scheduled Backup, change its name to something other than 'Backup.'
4. Restart the application and return to the **Schedule** tab in the **Backup Center** window.

**Note** The C: Drive CANNOT be used as a backup location; this is done intentionally to protect the operating system.



## *Performing a Scheduled Backup*

1. On the Live screen, click **Backup**.
2. Click the **Schedule** tab.
3. Select the blocks of time to back up using the Hour/Minute Grid. Blocks of time with recorded video are highlighted in green. Blocks of time selected for backup are highlighted in red.
4. Set the **Backup Time** to perform the backup.
5. Set the **Repeat Backup(Daily)** time to specify the number of hours between backup procedures (between 1 and 24 hours).
6. Select the **Backup Drive** to save the backup video in the **Select Backup Media** section, or click **Network Drive**. To save to a local drive or partition you must first rename the location “BACKUP.”

**Note** For instructions regarding naming drives or partitions, see the **Specifying Scheduled Backup Drives** section.

7. Select **Overwrite on Disk Full** to overwrite previous backup files when the disk is full.
8. Click **Save Backup Setting** to save the current backup setting and return to the Live screen.

# LAN / ISDN / PSTN CONNECTIONS

## LAN OVERVIEW

You can connect your recorder to a Local Area Network (LAN) and using the Windows® 7 Embedded operating system. This allows you to configure LAN connections no matter what type of LAN you want to use.

A LAN is a group of computers and other devices dispersed over a relatively limited area and connected by a communications link that allows one device to interact with any other on the network.

Using Microsoft® Windows® 7 Embedded when using a LAN provides a high level of security. Windows 7 Embedded is based on the Microsoft Windows platform, which boasts one of the most reliable and secure operating system in the world. Running the recorder on a secure network is important to prevent unwanted users from gaining access to confidential information. Unwanted users can compromise the integrity of the confidential data being stored and viewed, and in extreme circumstances can cause irreparable damage to the network.

Since connecting the recorder to a network can be extremely complex depending on the network, this OpenEye recorder manual will cover only the basics. We recommend consulting the Vendor or IT Administrator before attempting to create or connect to a LAN.

## CONNECTING TO A LAN USING TCP/IP

The networking options of the recorder can be created and modified via the standard networking options available on Windows 7 Embedded. The recorder comes equipped with a 10/100/1000 Network Interface Card (NIC). This card uses a standard RJ-45 connector, and should be connected using CAT6 Ethernet cable to achieve optimal communication speeds.

### Configuring TCP/IP Settings

1. On the Display screen, click **Exit** and select **Restart in Windows Mode**.
2. Right-click **Network** on the desktop and select **Properties**.
3. Click **Local Area Connection**.
4. Click **Properties**.
5. Select **Internet Protocol Version 4 (TCP/IPv4)**, then click **Properties**.
6. Select **Use the Following IP Address** option. Enter the **IP Address** and **Subnet** mask appropriate for the network. It is recommended to contact the Network Administrator for appropriate IP settings.

   **Example:** a. Common IP addresses are 192.168.0.25 or 10.0.0.25

   b. Common Subnet masks are 255.255.255.0 or 255.0.0.0

**Note** In order to connect to the recorder through a remote LAN connection, a static IP address must be assigned. If the network assigns the IP address automatically (DHCP), contact the Network Administrator for help assigning a static IP address.

7. If the network requires you to specify the DNS information, enter it now by selecting the appropriate DNS options.
8. When finished configuring the TCP/IP settings click **OK** to close the **Internet Protocol (TCP/IP) Properties** window.
9. Click **Close** and then **Close** again to close both **Local Area Connection Properties** windows.

# ACTIVE DIRECTORY INTEGRATION

## FEATURES

These instructions are for Active Directory Integration with Server Software version 3.6.36 and above.

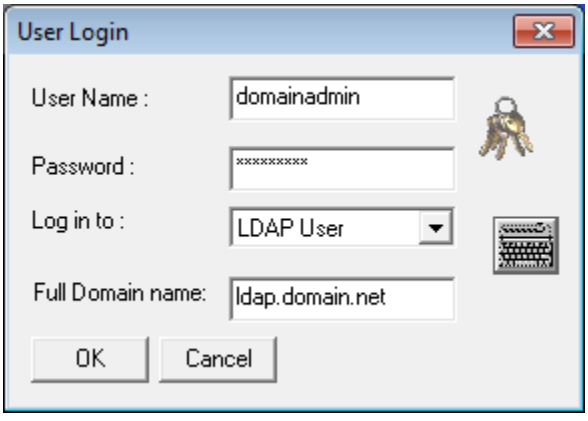
- The recorder does not need to be joined to the domain. The recorder will query the Active Directory server for accounts and authorization levels.
- The recorder creates groups within Active Directory for each of the permissions on the recorder. Simply join a domain user to these groups to provide access to that function in the recorder.
- Recorder access within Active Directory is based on the Site Code within the recorder software. This allows an administrator to group recorders with the same Site Code.
- Remote and Multi-Site management software works with Active Directory logins.

## INSTALLING ACTIVE DIRECTORY

**Required Items**

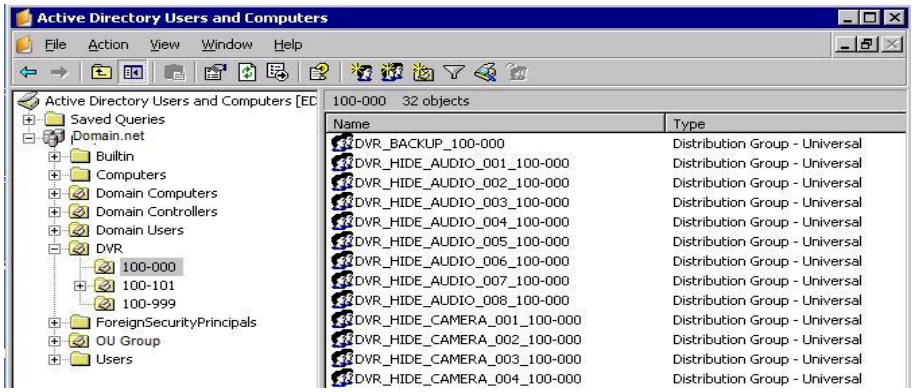
- Name of Active Directory server.
- Account in Active Directory server that has Domain Admin rights. This user will be used initially to create the Organization Units (OUs) and Groups within Active Directory.

1. Verify that the recorder is connected to a network that has a valid Active Directory server. Ensure that the TCP/IP settings are configured correctly for DNS resolution and gateway if needed. Check to verify that you can ping the Active Directory server without issues.
2. Set up **DVR Site Code** to be used for Active Directory authorization. The default will be 100-000. This site code can be used to group recorders together within Active Directory.
   **a.** Log in to the recorder using the local recorder administrator account (non-Active Directory).
   **b.** Click **Setup**, and then click **System Information**. Change the **Site Code** as required.
3. Log on to the recorder server with the domain account with administrator privileges (see above required items). If successful, the recorder will log the administrator user on without any error messages. You may log off the recorder once this is completed without errors.




**Note** If you encounter an error please verify that the above required items are correct.

4. Go to the Active Directory Users and Computers application. You should now see an OU called DVR with an OU inside of it named the same as the Site Code above (example 100-000).




5. You can now add users within Active Directory to the groups the recorder has created. When a user belongs to a group he or she will have access (or be denied access in the case of Audio or Camera channels) to that permission on any recorders with that site code.

| Group | Description |
|---|---|
| DVR_BACKUP_100-000 | Backup access to DVRs with site code 100-000 |
| DVR_HIDE_AUDIO_0XX_100-000 | Hides audio channel XX for site code 100-000 |
| DVR_HIDE_CAMERA_0XX_100-000 | Hides camera XX for DVRs - site code 100-000 |
| DVR_INSTANT_100-000 | Instant recording access to DVR |
| DVR_PTZ_100-000 | PTZ access to DVRs - site code 100-000 |
| DVR_PTZEX_100-000 | Access to advanced PTZ control |
| DVR_RELAYOUT_100-000 | Access to toggle relays from live view |
| DVR_SEARCH_100-000 | Access to search on DVRs - site code 100-000 |
| DVR_SETUP_100-000 | Access to setup on DVRs - site code 100-000 |
| DVR_SHUTDOWN_100-000 | Grants the ability to shut down the DVR server |

**Note** The above site codes may be different depending on what site code the recorder server had when it was logged into Active Directory.

6. You can now log in to the recorder server using any of the Active Directory users who belong to one of the above groups.

# WEB VIEWER

## WEB VIEWER OVERVIEW

The recorder allows you to access video using Microsoft® Internet Explorer® 7+.

**Highlights:**

- View Live Video from most computers
- Username and Password protected
- Easy to use graphical interface

**Basics:**

75 users can access the Web Viewer simultaneously (if network bandwidth allows). The Web Viewer is an easy, secure way to view live video from virtually any computer with an internet connection using Microsoft Internet Explorer.

In order to log in to the recorder server, a user account must be made for the user. This ensures that only authorized personnel are allowed to log in. In addition, each user can be assigned different privileges that allow them or deny them access to different cameras. For example: a user can be granted access to only view cameras 4, 8 and 16.

## Configuring the Recorder for Remote Connection

1. In the Display screen, click **Setup**.
2. Click **Network Setup**.
3. Select **Enable Web Viewer**.

**Note** If you are using a Firewall, it may be necessary to adjust the port settings on both the recorder and the Firewall. Contact your Network Administrator for more information.

4. Click **Apply**.

**Note** If no additional user accounts have been created, the administrator account will be the only account that can connect to the recorder remotely.

5. The recorder server is now ready to receive incoming connections from Remote Software, RADIUS, MDVR, or the Web Viewer.

## Connecting to a Recorder Using Web Viewer

1. Open Microsoft Internet Explorer.
2. Type the IP address of the recorder into the Address Bar.
3. When attempting this for the first time on a workstation a prompt will ask you to accept an ActiveX installation. Select **Yes**.

**Note** If you receive a message saying Internet Explorer® security settings do not allow you to download ActiveX components then you will need to adjust the browser security settings. One way to do this is to add the IP address of the recorder to the trusted sites list inside Internet Explorer® settings. Contact your System Administrator for additional help with adjusting Internet Explorer settings.

4. When the Web Viewer finishes loading, click **Connect.**
5. Type the **Username** and **Password** of an authorized user.
6. The cameras will display.

## Closing the Web Viewer

To exit the Web Viewer close Internet Explorer.

# INCLUDED SOFTWARE SETUP

## MDVR OVERVIEW

OpenEye MDVR software, available for iPhone, iPad, and Android devices, allows you to access your OpenEye recorder from almost anywhere on your mobile device. MDVR gives you the ability to view live video from your cameras using a simple interface.

For a list of supported models, installation instructions and download links, visit openeye.net.

## EMERGENCY AGENT OVERVIEW

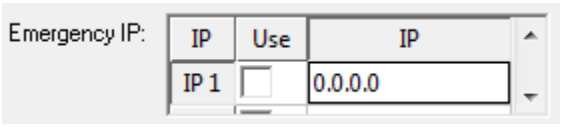
The Emergency Agent software is a utility that streams video across a Local Area Network to a Client PC when an alarm is detected on the recorder. The streaming video can be stopped, played forward and backward, in slow motion or regular speed.

The utility is loaded at startup and placed in the taskbar. It constantly monitors for a signal from the recorder. When an alarm signal is detected the Emergency Agent Image Viewer window opens and starts playing the video from the camera associated to the alarm.

### Configuring the Recorder

To enable the Emergency Agent on the recorder follow these steps:

1. In the Display screen, click **Setup**.
2. Click **Recording Schedule**.
3. In the Alarm Options section, select **Sensor Event**, **Motion Event**, or both.
4. Select **Emergency Alarm**.
5. Set the **Transmission Duration** (in seconds) for this alarm.
6. Type up to five **Emergency IP** of PCs running Emergency Agent software.



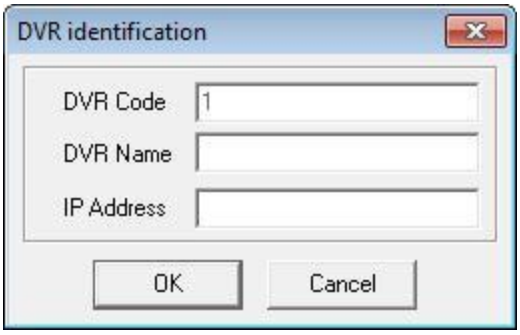

7. Select the appropriate Emergency IP addresses. You can only use one IP address at a time.
8. Click **Apply** to save your settings.

**Note** The Emergency Agent uses one port to transfer the data through the network (the Emergency Port). The port can be adjusted inside the Network menu if necessary. It is recommended that the default setting should be used unless the port must be changed.

## Configuring the Client PC

All configurations take place in the Emergency Agent window on the Client PC. For descriptions and locations of the buttons and features of the Emergency Agent window, refer to the Emergency Agent Window section.

1. Open the Emergency Agent window on the Client PC - **Start >All Programs > OpenEye > Emergency Agent > Emergency Agent.**
2. Right-click in the DVR list and select **New**. Enter the **DVR Code**, **DVR Name**, and **IP Address** of the recorder.
3. Click the **Options** menu and select **Setup**.
4. Confirm that the **Network Port** in the **Setup** window is set to the same number as the Emergency Port in Network Settings on the recorder. If the numbers are different adjust the **Network Port** on the client PC to match the recorder.
5. Click **OK**.
6. Restart the Client PC.




## Setup Window

**Network Port**

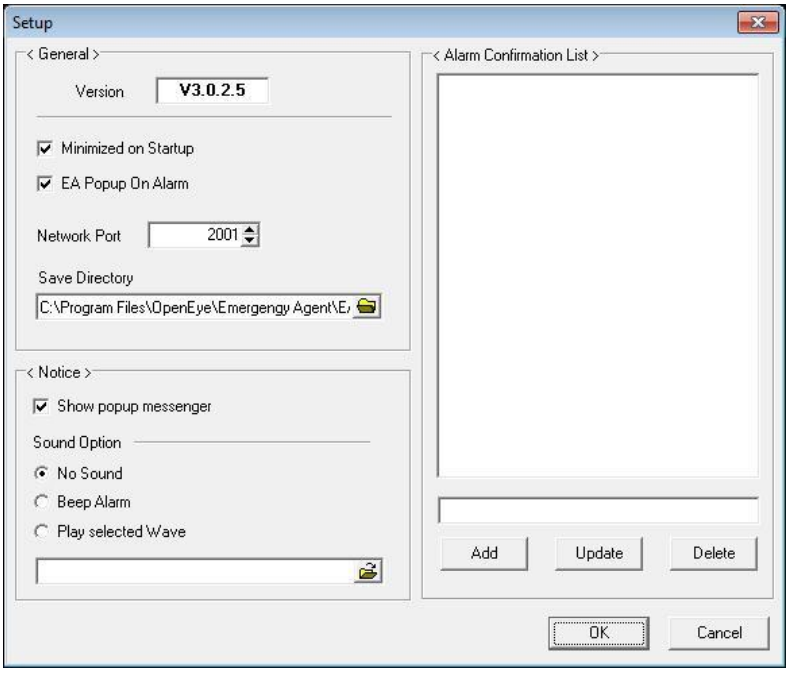
Indicates the port which the Emergency Agent uses to listen for incoming events. This number should be changed to the same number as is set in the Emergency Port in **Network Settings** on the recorder.

**Save Directory**

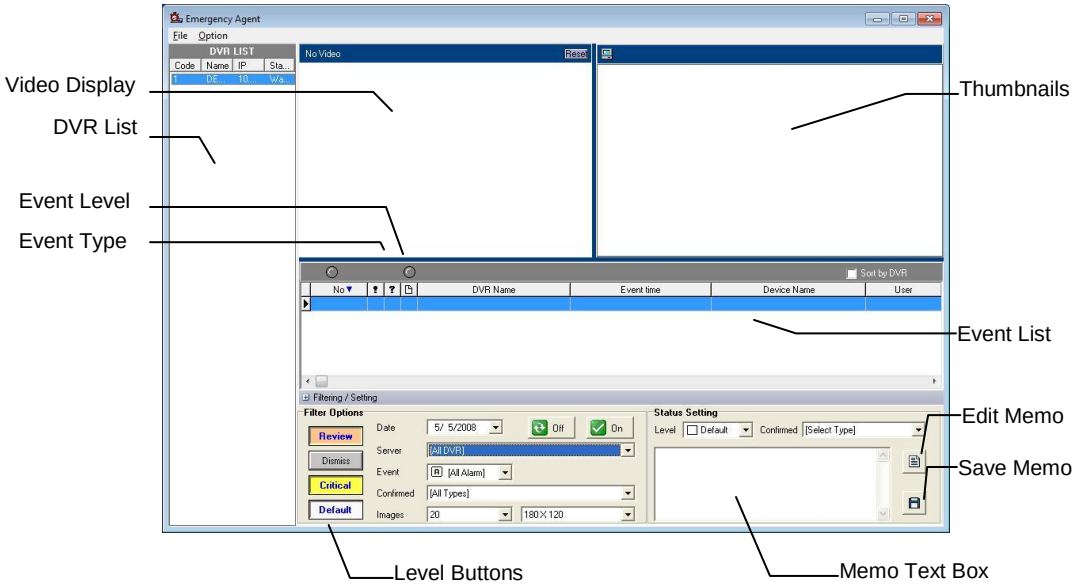
Sets the location that recorded video footage is saved to.

**Notice Options**

Configuration settings for activating an audible indicator or popup window when the Emergency Agent receives an event.



## Emergency Agent Window

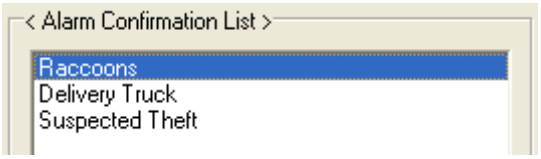



## *Filter Event List*

1. Select a recorder from the **DVR List** in the **Filter Options** section.
2. Select the **Date** to include.
3. Select the type of **Events** to include.
4. Select the event levels (**Review, Dismiss, Critical, Default**).
5. Click the **On** button to display filtered event listings.

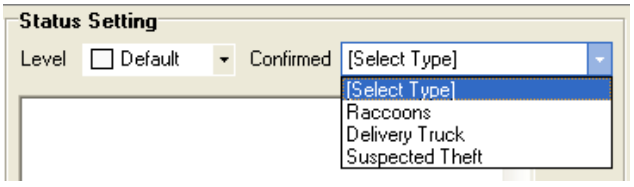
## *Add Items to Alarm Confirm List*

1. On the **Option** menu, click **Setup**.
2. Type the desired text in the box below the **Alarm Confirmation List.**

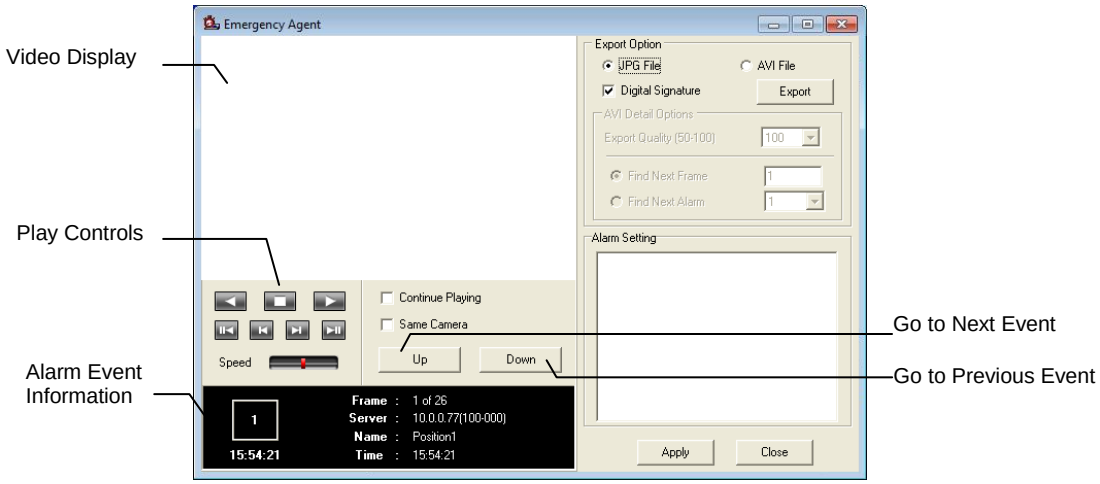



**Note** The items in the **Alarm Confirmation List** will be available on a list under **Status Setting** on the main Emergency Agent screen.

3. Click **Add**.
4. Click **OK** to save changes and close the window.



## Search Alarm Window




**Export Quality**

It may be necessary to reduce the overall size of an AVI file; for example, to email to someone. AVI file sizes can be reduced by reducing the image quality. However, reducing the image quality causes the AVI video to appear more pixilated. When size is not an issue, setting quality to 100 is highly recommended.

**Digital Signature**

Adds a digital signature to the exported JPG image for use with the Digital Signature Verifier to verify integrity of exported images and prevent tampering.

## *View Recorded Video*

1. Double-click an event listing to open the **Search Alarm** window.
2. Use the play controls to locate the desired video.
3. Select the **Continue Playing** check box to watch all recorded events. When cleared, playback stops at the end of the alarm event.
4. Select the **Same Camera** check box to watch all events recorded by a single camera.
5. Click **Apply** after making any changes.

## *Export Video*

1. Double-click an event listing to open the **Search Alarm** window.
2. Use the play controls to locate the desired video.
3. Click **Rewind** to return to the beginning or desired spot in the video.
4. Click Stop.
5. Select the **Export Option** – JPG or AVI.
6. Select the **Digital Signature** check box to embed a digital signature in a JPG file.
7. Reduce **Export Quality** only if necessary to reduce the size of the AVI file.
8. Click **Export**.

# REMOTE SOFTWARE OVERVIEW

The recorder was specifically designed to be fully operated and maintained remotely. It connects using the standard TCP/IP protocol thorough connection types such as DSL, Cable Mode, T1, ISDN, LAN, and more. The OpenEye Remote software allows you to view live video, search through archived video, export images and video clips and have virtually full Setup control. OpenEye Remote Software is Microsoft® Windows XP®, Windows Vista®, and Windows 7® compatible.

**Highlights:**

- Search archived video
- View live video
- Export images and video clips
- Control relay outputs
- Setup administration

**Basics:**

The recorder can have up to 10 simultaneous remote connections. Each user can perform functions on the recorder and will not affect the other users. The only exceptions to this are accessing Setup and controlling a PTZ camera. Only one user is allowed to access setup or control a PTZ camera at any given time. The pictures per second passed to the Remote Client vary greatly depending on the connection type and speed.

In order to log in to the recorder server, a user account must be made for the user. This ensures that only authorized personnel are allowed to log in. In addition, each user can be assigned different privileges that allow them or deny them access to different functions. For example: a user can be denied Searching and Setup privileges and only granted access to view cameras 4, 8 and 16.

It is highly recommended that users not be granted Setup privileges since this can pose a security risk. Only properly authorized Administrators should have access to Setup.

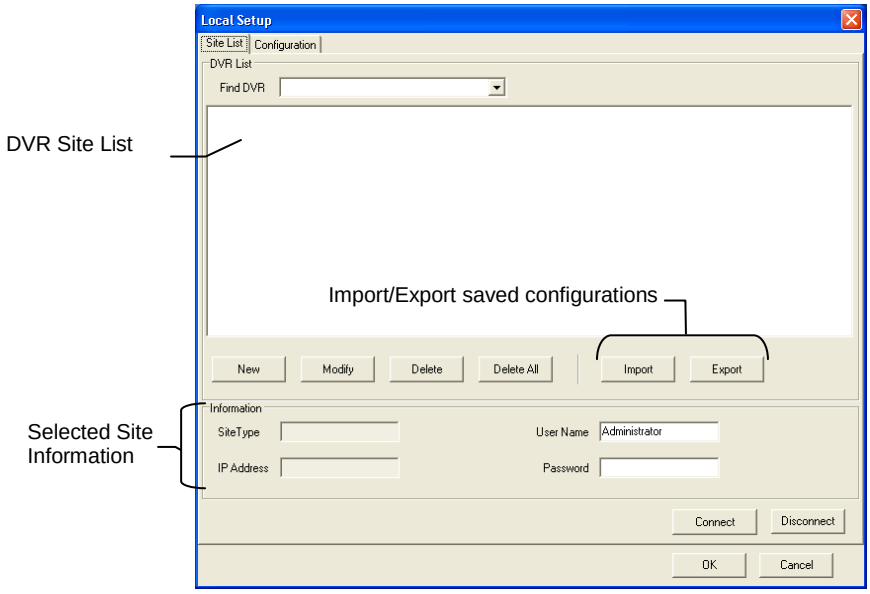
The Remote software operates virtually the same way as the recorder itself. The appearance matches the recorder almost identically; however, there are a few minor differences. Some search features are not available (such as the Index and Object Searches) as well as some Setup options.

# Remote Software Setup

## Installing Remote Software

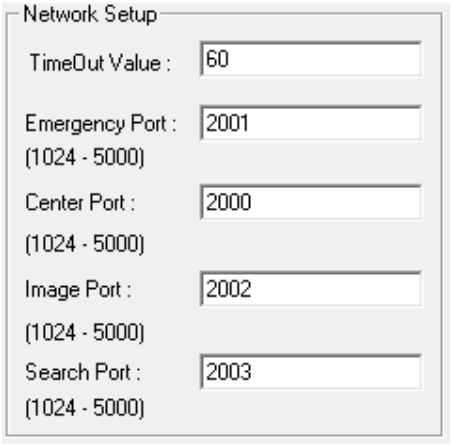
1. On the client workstation, insert the OpenEye Software CD into the CD-ROM. The CD should play automatically.
2. When prompted, select the **Install Remote Software** option. Follow the installation instructions carefully.
3. When the software finishes installing, close any open installation windows.

## Create a New Remote Connection




4. Click **Start > Programs > OpenEye > Remote > OpenEye Remote Center**. The OpenEye Remote Software opens and the **Local Connection** window opens.
5. Click **New** to open the **Site Info** window.
6. Select the **Site Type** and enter a **Site Name**. The **Site Name** will be the name displayed inside the connection box to help identify the unit.
7. Enter the **IP Address** of the recorder.
8. Enter the **Center Port**. This setting is specified in the server software.
9. Click **OK**.
10. Click on the newly created connection and enter the login username and password (case sensitive).
11. Click **Connect**.

## *Configuring the Recorder*




In order to access the recorder remotely, the recorder must be set up to allow remote connections.

**Time Out Value**

Specifies a value (in seconds) to wait for a signal from the OpenEye Remote Client. If a signal is not received by that time, the connection is dropped.

**Center Port**

Used to transfer the connection data.

**Image Port**

Used to transfer the image data.

**Search Port**

Used to transfer the search data.

# DIGITAL VERIFIER OVERVIEW

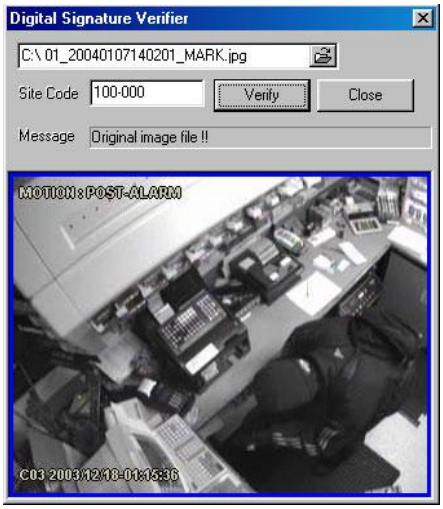
JPG images and AVI video files that are exported from the Digital Video Recorder are automatically embedded with a digital signature. Digital Signatures are a way to verify the authenticity of the images to ensure that they have not been tampered with or edited in any way. Included on the Software Installation DVD supplied with the recorder is the Digital Signature Verification program. This program can be installed on any computer and loads an image in question.

## Installing the Digital Verifier

1. Insert the **Software Installation** CD into the CD-ROM. (Do not install on the recorder.)
2. Select the **Digital Verifier** option to begin installation.
3. When the **Welcome** screen appears, click **Next**.
4. When the **Setup Complete** window appears click **Finish**. Installation is complete.

## Using the Digital Verifier

1. Open the Digital Verification program by selecting **Start > Programs > OpenEye > Digital Verifier > Digital Signature Verifier**.
2. Click the **Browse** button to load the JPG image.
3. Enter the **Site Code** of the recorder that the image was originally extracted from. (The Site Code is specified in the Information Setup menu)
4. Click **Verify** to continue or **Close** to close the window without verifying.

| If the image has not been tampered with, a blue square will appear around the image with the message “Original image file.” | If the image has been tampered with, a red square will appear around the image with the message “Entire image changed or wrong SITE CODE.” |
|---|---|
|  | |

# BACKUP VIEWER OVERVIEW

The Backup Viewer allows you to play back the exported video in its proprietary format. Video saved in this format is extremely difficult to tamper with and therefore is the ideal solution for situations involving law enforcement and legal matters. This video cannot be read by any other viewer. The Backup Viewer operates similar to the Search portion of the recorder software.

For detailed explanations of these functions, refer to the chapter on Search Options in this manual.

## Installing Backup Viewer

**Note** If you selected Include Backup Viewer when exporting your backup, the Backup Viewer software will load automatically.

1. Insert the Software Installation DVD into the DVD-ROM.
   (Do not install on the recorder.)
2. Select the **Backup Viewer** option to begin installation.
   When the **Welcome** screen opens, click **Next**.
3. Read the License Agreement and select the appropriate radio button to accept the terms of the license agreement.
   Click **Next**.
4. Select **Yes** to install the POS component or select **No** for a basic install.
   Click **Next**.

**Note** The POS component is only necessary when connecting to a server running the POS Upgrade.

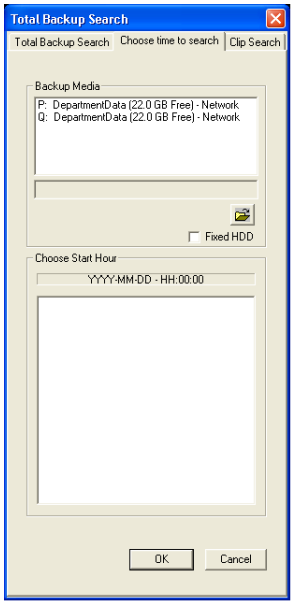
5. When the **Choose Destination Location** window opens click **Next**.
   This will install Backup Viewer in the default destination folder.
6. Select the shortcuts to install, or clear all boxes for no shortcuts.
   Click **Next**.
7. When the **InstallShield Wizard Complete** window appears, click **Finish**.
   Setup is now complete.

## Loading Video from DVD or Hard Drive

1. Open the Backup Viewer program: **Start > Programs > OpenEye > Backup Viewer > Backup Viewer.**
2. Click **Open**. The **Total Backup Search** window will open.
   - For DVD-ROM data, select the appropriate DVD-ROM drive letter from the Backup Media box.
   - For hard drive data, select either an attached hard drive from the Backup Media box or select the Open Folder icon to browse to a specific directory.

**Note** Once selected, available video data will be displayed in the **Choose Start Hour** field.

3. Click on the desired time to select it.
4. Click **OK**. The video will now load into the Backup Viewer.



# RADIUS OVERVIEW

RADIUS software is Network DVR Management Software; a powerful utility that allows 100 or more recorders to be controlled using one computer. This software allows you to view live video, search saved video, edit and configure setup on each recorder, and import maps of buildings and other locations.

The RADIUS software was specifically designed as an enterprise software solution.

**Highlights:**

- View Live Video on most computers
- Username and Password protected
- Easy to use graphical interface

**Basics:**

In order to log in to the recorder server, a user account must be made for each user. This ensures that only authorized personnel are allowed to log in. In addition, each user can be assigned different privileges that allow them or deny them access to different functions.

## Connecting to a Recorder

Refer to the Setup section of the RADIUS Manual for information on using the RADIUS Software. The RADIUS Manual can be found on the OpenEye Software CD or at http://www.openeye.net.

www.openeye.net
1-888-542-1103

© 2015 OpenEye

All rights reserved. No part of this publication may be reproduced by any means without written permission from OpenEye. The information in this publication is believed to be accurate in all respects. However, OpenEye cannot assume responsibility for any consequences resulting from the use thereof. The information contained herein is subject to change without notice. Revisions or new editions to this publication may be issued to incorporate such changes.